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ART. I. A MEMOIR *upon the* OPHTHALMIA, *which recently prevailed in the army of the Netherlands, by the Chevalier* JOSEPH ROMAIN LOUIS DE KIRCKHOFF, M. D. late Principal Physician to the military hospitals; honorary Vice-President of the Mineralogical Society of Jena; Associate of most of the literary and scientific academies and societies of Europe; Member of the Medical Commission of the province of Antwerp; Corresponding Member of the Academy of Batavia, &c.

[*Translated from the manuscript communication of the author.*]

THE extensive ravages, caused by the prevalence of ophthalmia in the troops of the Low Countries, have attracted the attention of all the medical officers connected with the army, and strongly aroused their zeal to ascertain its causes, and fix upon the most efficacious mode of treatment. From my situation as physician of the military hospital of Antwerp, and from my having charge of all those admitted into it, who

were affected with diseases of the eyes, I have been induced to turn my attention particularly to this subject, and am willing to hope that my views will be found to conform to the principles of sound reasoning, as I have strictly endeavoured to found them upon the sure basis of experience.

I shall not attempt to detail the various opinions upon this subject, which have been brought forward at different periods by different individuals attached to the army, but shall merely recall the recollection of a dissertation upon this affection by a Belgian surgeon, published in 1819, in which he considers it as imported into Europe, from Egypt. This opinion has recently received the countenance and support of a Prussian surgeon-general, though strongly opposed by most of the Belgian medical officers, who have written upon the subject, and who attribute it to the close leather stocks worn round the necks of the soldiery.

I am by no means of opinion with those who attribute its origin to the sultry coast of Egypt, neither do I believe that it essentially depends upon the close stocks worn by soldiers, though certainly no enlightened physician can deny that this may be a strong predisposing cause, as any thing, which prevents the free return of the venous blood from the head, may produce a degree of congestion of the capillary vessels of the organ of vision. It does not seem to me possible, that it can be justly attributed to the tight stock just referred to, because the cavalry, who have likewise worn it, have suffered very slightly from the disease, while on the other hand, those who have never worn it, have been severely attacked.

It is an incontestible fact, and one observed by all the medical men attached to the army, that the most frequent cause of ophthalmia among soldiers is the suppression of the insensible perspiration. In consequence, it is found to occur most frequently in armies which are forced to make long marches, exposed to the influence of a burning sun, and who subsequently pass the night in open tents, especially when the eyes are rendered unusually irritable by the dust, or any other external cause. Thus toward the end of July and the com-

mencement of August in 1812, we observed in the French army in its march upon Smolensk, a great number of men, affected with ophthalmia, arising from the dust and heat of the weather, joined to the coolness of the nights. During this period too, the eyes were strongly excited by the reflection of the sun's rays from the sand, and the perspiration was much increased by the rapidity of the march, while the coolness and moisture of the night air, in an open encampment, caused a suppression of the insensible perspiration. From these united causes, the eyes soon became centres of fluxion, and inflammation of course followed.*

I do not hesitate to assert my belief that the ophthalmia, which fell under my observation in the army of the Netherlands, arose from a catarrhal source. That there is a strong analogy between this affection and the Egyptian ophthalmia, I shall not deny; but is not even this a true catarrhal affection? Who indeed can doubt it, after what has been said by the experienced physicians and surgeons who have examined and treated it on the spot?

According to them, the usual causes of the ophthalmia of Egypt are the reflection of the solar rays from the burning sand, and the floating in the air of the fine sand raised by the wind, together with the excessive heat of the day, and the extreme coolness of the nights. In that country, as well as in our temperate climate, the perspiration is liable to be suddenly suppressed by the coolness or moisture of the night, after active exercise during a hot day. The consequence of this suppression naturally falls upon the eyes, from their being already irritated by the strong excitement arising from the light and dust, and active inflammation follows.

I agree with those who believe this disease of Egyptian origin, in considering it of a contagious character. Numerous experiments which I have made upon this point, have strongly

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* See my "History of the Diseases observed in the Grand French Army during the campaigns in Russia in 1812, and in Germany in 1813." Second edition. Utrecht, 1822. p. 193.

confirmed me in the opinion, that it is communicated only by the actual contact with a healthy eye of the matter produced by a diseased one. In this way, large bodies of soldiers contract the affection, by washing in the water which has already been used by a person afflicted with it, by wiping with a towel imbued with the matter, etc. What catarrhal affection, we may ask, is there, which does not present a contagious character, when the morbid fluid produced by it, is brought in contact with the surfaces which are the usual seat of the disease ?

The difference of opinion with regard to the contagiousness of this disease, has induced me to make a great number of experiments upon the subject ; all of which, as before stated, have led me to the conclusion that this affection is communicated only by actual contact. I have oftentimes made those affected with ophthalmia sleep with the wounded, and with those suffering under the venereal and other diseases, but have never seen it communicated in this way. But after having inoculated different individuals with the matter flowing from the eyes of those afflicted with ophthalmia, and although, in doing it, I scarcely touched the edges of the eyelids, and in such a manner that it could not be considered as acting as a foreign body in the eye, ophthalmia followed in one or two days, rarely ever allowing three days to elapse before it made its appearance. M. Hupsch, one of the medical officers under my orders, now in the service of the colonies, in order to show his conviction that it was not contagious, submitted to inoculation, and at the end of twenty-four hours, was attacked with an inflammation so violent, as actually to endanger his sight.

Nevertheless, I shall never be persuaded that the ophthalmia, which committed such extensive ravages among the troops of the Low Countries, arose from contagion. In proof that it arose from a catarrhal source, it is only necessary for me to mention, in addition to what has been already said, that it made its appearance principally in those seasons in which catarrh usually prevails, that is, when the atmosphere

is liable to frequent changes, and the weather is cold and moist. Thus it prevailed most extensively in 1816, from the month of March till November. This period was extremely rainy, and the sky continually covered with clouds and fog; the eyes, in consequence, less stimulated by the light, were more susceptible, by their increased irritability, to become centres of fluxion. It should be remarked, that this year, the army was much fatigued by continual exercises. Most of the soldiers were young and unaccustomed to a military life; they wore stocks about the neck, and were compelled to hold their heads in an erect and fatiguing position, which no doubt prevented, in a measure, the free return of the blood from the head, and thus produced more or less congestion about the organs of vision. The active perspiration produced by their usual exercises was often suppressed by the coolness and moisture of the atmosphere, to which they were afterwards exposed.

The patients, who came under my care with this disease, generally stated that the first symptom, noticed by them, was a sensation of itching and burning in the globe of the eye, together with a feeling of fulness and difficulty in moving that organ. This stage was ordinarily accompanied with a slight degree of redness in the conjunctiva, and was followed, more or less promptly, by an increase of the redness, and pain, as well as by a great flow of tears, and painful and indistinct vision. The disease made its first appearance sometimes in both eyes, sometimes in only one; in this latter case, however, the inflammation soon reached the other.

It varied much in point of severity, being intense in some cases, and mild in others. In some instances, its progress was slow, in others, surprisingly rapid. I have seen cases in which the disease made its first appearance, and reached its greatest degree of violence within twenty-four hours.

No particular constitution or habit of body seemed exempt from its attack.

When its commencement was violent, the inflammation appeared at once in the eye-lids, and the conjunctiva of

the globe; giving the most acute and lancinating pain, and rendering the slightest impression of the light insupportable. In the grave cases, there occurred more or less fever, according to the severity of the disease.

When it was very intense, and did not readily yield to the usual treatment, it sometimes suddenly became more violent, the inflammation extending to the internal membranes of the eye, and even to the retina. In these cases, the eye-lids were sometimes everted by the swelling of the conjunctiva, and the secretion of tears at first so profuse, became lessened, and even suppressed; the pupil, in consequence of the inflammation of the iris, was contracted, or wholly closed, and the distension of the ball of the eye rendered the pain in that organ and in the head so insupportably severe, as to drive the patient into delirium.

When the disease had reached this degree of violence, which it sometimes did in an unexpected manner, it was by no means rare to see a secretion of pus, or of a yellowish gelatinous fluid in the anterior or posterior chambers of the eye, or between the lamina of the cornea, constituting an opaque spot which injured the vision to a greater or less extent. This high degree of inflammation also produced ulcers of the cornea, which are so liable to leave cicatrices behind them. I have, in some instances, where the disease was of the severest kind, seen it produce a rupture of the cornea.

Treatment. The treatment which I shall now lay down, has been always followed by the most happy success. Out of the vast number of patients who have come under my care, not an instance has happened, where the disease was taken in season, that a cure was not effected without the slightest accident.

In slight cases I had recourse to the most simple remedies only, such as frequent lotions of rain water, or a decoction of mallows, the application of a blister to the back of the neck or behind the ears, bathing the feet, quietness, abstraction of light, and a rigid diet; avoiding every thing which was

capable of exciting or keeping up the irritation. By these means, cases of a slight kind were usually cured in a few days.

I several times found that if the warm bath was frequently used the moment the earliest symptoms appeared, the disease might be at once arrested; but if the inflammation was already established, it served only to increase it.

I have often employed emetics with success, immediately upon the commencement of the attack, even when no gastric derangement existed, an occurrence which I have rarely ever met with in this disease. But if the inflammation has already reached the second stage and is pretty severe, emetics, accord- to my experience, will prove injurious, notwithstanding the opinions of those who have recommended them in this affection.

If the disease assumes a grave character, and has reached an acute state of inflammation, I employ, without delay, the most active means for reducing the inflammation, especially if it extends to the interior of the eye, because in this case purulent ophthalmia, capable of producing a disorganization of the eye, or causing other changes sufficient to destroy the power of vision, is to be feared.

During the inflammatory stage, I endeavour by all possible means to remove every thing which can aid in keeping up a state of irritation. To avoid the impression of the light, I shut the patient up in a darkened chamber, well aired and cool, for a warm atmosphere increases the inflammation; I prescribe a most rigid diet, and recommend quiet and repose, with the head elevated.

I then have recourse to copious blood-letting, proportioned to the violence of the disease, and the strength of the patient. The blood should be drawn from a large orifice, in order that the depletion should be as instantaneous as possible. Experience proves that in this mode, it produces its effect most promptly and efficaciously.

In the acute stage, I bleed boldly, and repeat the operation

as long as the severity and continuance of the disease require it.

In addition to this, I give cooling purgatives, as cream of tartar, etc. and make use of warm baths to the feet, in which powdered mustard has been mixed, at the same time applying blisters to the arms,* and cloths moistened with a cold decoction of mallows to the eyes, and make refrigerent applications to the head, such as bladders filled with iced water, etc. To prevent the retention of acrid tears, and to hinder the gluing together of the eye-lids by the matter discharged, a thing which ought not to be lost sight of in this disease, I direct the eyes to be repeatedly moistened during the day with a sponge wet with the decoction of marsh-mallows, and in some cases to be carefully injected, by throwing the decoction in between the lids and the ball of the eye. I would remark here, in passing, that in the acute inflammatory stage, emollient fomentations and cataplasms, so inconsiderately recommended, are very injurious; they not only aggravate the inflammation, but they encourage and bring on a purulent state. We should be cautious too, at this period, in using those ointments, etc. so pompously cried up as anti-ophthalmic, as well as all kinds of collyria, in which the acetate of lead, the sulphate of zinc, opium, or any other irritating substances enter.

With regard to blood-letting, I would observe, that the abstraction of blood from the arm or foot, does not seem to me to produce so prompt or efficacious a result as when it is drawn from the neighbourhood of the inflamed part, as from the jugular vein or the temporal artery. When there is no obstacle to prevent, I have always preferred the former, and have never known any accident result from it. This mode of bleeding has never, notwithstanding the opinions which have been brought forward to the contrary, appeared to me

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* In the acute stage of severe ophthalmia, blisters should be applied to parts at some distance from the head; if applied to the back of the neck or to the temples, they increase the inflammation.

that in arteriotomy, the compression which is so frequently necessary to stop the discharge of blood, is liable to create a considerable degree of irritation in the immediate vicinity of the inflamed organ. If I should decide, however, to adopt this mode, I would do it, as is usually recommended, on the side of the affected eye, or on both sides if both eyes were affected at the same time; I would avoid as much as possible, the loading the head with bandages and compresses, or other applications which would have a tendency to increase the heat.

When the inflammation is not very severe, or sometimes after blood-letting in severe cases, I direct the application of leeches to the temples; if applied to the eye-lids or too near the inflamed part, they increase the irritation. Their application about the eye in the acute stage of ophthalmia as is often done, is a bad practice; it is only in cases where the conjunctiva is swollen and puffed out, or when the inflammation is losing its acute character that their employment about the eye-lids is indicated.

When the violence of the disease is calmed, and the acute inflammatory stage passed over, if there is tumefaction of the conjunctiva, repeated scarifications of the membrane usually, though not always, succeed in reducing it. They fail generally in those cases in which eversion of the lid is present, in these cases it is sometimes necessary to remove a part of the conjunctiva in order to remedy this deformity.

As soon as the acute inflammation is overcome, as adhesions of the iris are very liable to be formed at this period, I direct a special degree of attention to this part. If it is strongly contracted, as is the case when the inflammation is transmitted to the internal parietes of the eye, I apply compresses wet with a strong infusion of belladonna, stramonium or henbane, in order to dilate the pupil and destroy any adhesion which the iris may have contracted. With the same intention, I often at this period prescribe the use of belladonna or stramonium internally.

We should be cautious when the disease has lost its acute character, not to debilitate the patient any farther. We shall know when this period arrives by the cessation of fever, if any has been present, by the diminished redness of the inflamed conjunctiva, by the more natural appearance of the eye-lids, by the diminution of the pain, and by the change in the matter discharged from the eye, it being less acrid, more abundant, and thicker. I then put the patient on a more tonic regimen, taking the precaution to increase his food very gradually, and directing him to wash the eyes frequently with some weak aromatic infusion, as that of elder flowers, mint, etc. To these lotions, I add a little laudanum or aqueous extract of opium. If the irritability of the eyes is very great, I often use, with advantage, an infusion of hemlock, digitalis, or hyoscyamus. In a chronic state of ophthalmia attended with great irritability, I have employed the laurel water (Prunus lauro-cerasus) in the form of a lotion, with remarkable success. One part of the laurel water, with two of rain water, has had in my hands an excellent effect.

When the disease has reached an asthenic or chronic state, attended with great general debility, I prescribe a tonic course, making use of bitters and sometimes cinchona in decoction or infusion.*

In cases of obstinate chronic ophthalmia, I have often seen great benefit result from the insertion of a seton in the neck, as well as from the use of collyria, containing a small quantity of tartrite of antimony, corrosive sublimate, white vitriol, alum, etc. to which I join laudanum or the extract of opium. When there is a considerable relaxation of the conjunctiva, or when leucoma exists, or ulcers of the cornea, or of the

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* Cinchona is indicated and employed in cases where the ophthalmia assumes an intermittent character, in the same way as in ordinary intermittent fever. I have met at Antwerp, where this variety of fever is very common, with several such cases of ophthalmia, and have always succeeded in curing them by the use of cinchona, uniformly taking care to reduce the inflammation as long as it possessed an acute character.

tarsi, of the carunculæ lachrymales, or the Meibomian glands, I have often derived advantage from mercurial frictions upon the temples, and the use of calomel internally. In the same cases, I have found the introduction between the eye-lids two or three times a day, of a small quantity of an ointment composed of lard and the white precipitate of mercury, to which a little aqueous extract of opium had been added; and in order to increase still further its stimulant effect, after the eye has become habituated to it, I add after a few days, a small quantity of corrosive sublimate.

As patients recovering from ophthalmia are extremely liable to relapse, I take great care during convalesence, to render the exposure to the impression of the light very gradual.

ART. II. *On the* EPIDEMIC PURULENT OPHTHALMIA *which appeared recently in the western part of the State of New-York.* By C. B. COVENTRY, M. D. of Utica, State of New-York.

PERHAPS there is not in the animal economy any individual organ, with the exception of those immediately essential to life, which lays higher claims to the attention of the philosopher and surgeon, than that of vision.

Whilst the delicacy of its structure, and the peculiarity of its functions, call forth the admiration of the one, its importance, its exposed situation, and its peculiar liability to disease, demand the most serious attention of the other.

In the long catalogue of diseases to which the eye is subject, the different species of ophthalmia hold the most conspicuous rank, not only from their frequency, but from their destructive effect. Indeed, inflammations in some of the membranes or appendages of the eye, precedes almost every disease to which this organ is liable.

As the consideration of the various species of ophthalmia would require a discussion too long for the present occasion,

I shall confine myself to the consideration of one, which, as far as I can learn, has hitherto been little known in this country, but which from its late appearance, the violence and rapidity of its course, as well as from its destructive effects, demands our attentive consideration.

This disease may be found described by European authors under the head of Egyptian ophthalmia.

That it is the same which has appeared in this country, is evident not only from its correspondence with the description given of that disease, but from the assertion of a medical gentleman of respectability, who had an opportunity of becoming acquainted with the disease as it existed in the British army, as well as in this country.

A person unacquainted with the disease under consideration, might mistake it for what is usually described by authors as gonorrhœal ophthalmia, but a careful examination of the circumstances connected with its propagation, as well as the rapidity of its course, will usually be sufficient to distinguish them, and this distinction is of the utmost importance, as will be seen in the treatment.

It also, in appearance, bears considerable resemblance to the purulent ophthalmia of infants; but the one is confined almost entirely to infants, and attacks none but the weak and feeble, whilst the other attacks indiscriminately all ages and constitutions, and indeed seems to show its most malignant forms in the plethoric and robust.

The first account I have been able to find of this species of ophthalmia, is after the Egyptian expedition in 1801; and under the supposition that it first originated in that country, it was called Egyptian ophthalmia.

All the causes of ophthalmia arising from soil and climate, certainly exist in as great, if not greater degree, in Egypt, than in any other country; and perhaps in no other countries on the globe, is ophthalmia so common a disease. The great heat of the day, followed by cold, damp nights, is considered the most fruitful source of the disease. But whether they actually give origin to it, or only aggravate it when

already existing, is still a question. Veitch and Farrell seem of the former opinion, whilst Dr. Frick of Baltimore, in his late work on the eye, says, "There can be no doubt that it was not only known in the schools in Europe, but was epidemic long before 1801;" and he even goes so far as to assert that the soldiers often produced it by applying irritants to the eyes, and quotes Larry and other French writers as authority. But whatever may be its origin, it is evidently propagated by contagion, in this respect differing, as far as I am acquainted, from every other species of ophthalmia.

In the proem of the London Medical Journal, No. 42, is the following remark:

"Dr. Veitch considers that ophthalmia may first arise from atmospheric influence, and afterwards be propagated by contagion, by the matter formed being communicated from the eyes of the diseased to those of the healthy. A proposition which he has satisfactorily and originally established in regard to the ophthalmia acquired by the British troops in Egypt at the commencement of the present century, and afterwards propagated in several parts of England and Ireland, when the soldiers affected with it were dispersed on the return of the army."

Dr. Farrell treating of the same subject, "thinks the peculiarities of the soil and climate of Egypt are sufficient to account for the prevalence of the disease in that country, and he admits, or seems to admit, that this combination of causes may contribute to the production of a species of ophthalmia, which by frequency and inveteracy, or other means, may acquire the power of propagating itself by contagion.

"It is admitted that the ophthalmia here treated of, and which the most positive evidence does not permit us to doubt, arose in Egypt, is contagious.

"Whether it be a disease *sui generis*, having qualities peculiar to itself, specific and contagious, *ab origine*, or whether the accumulation and concentration of morbid atoms,

elicit or generate a contagious material, is no t of much importance as relates to practice."*

That the above seems to have been the general opinion in England, and particularly with the army surgeons, is sufficient to establish the contagious nature of the disease as it then existed, and the little experience which we have had, will not warrant us to hope that it is less so in this country.

Of a family consisting of seven or eight persons, every individual had purulent ophthalmia. Several of the most intimate neighbours were attacked before they were aware of its contagious nature.

By establishing a non-intercourse, a check was fortunately put to its progress. This family supposed they caught it of a friend who came from the State of Ohio.

The disease usually commences with a sense of uneasiness in the eye, and an intolerance of light; there is little pain at the beginning, if the eye is kept perfectly still and excluded from the light, but a sensation as if there was sand in the eye. If it be carefully examined, the conjunctiva lining the palpebræ will be found red and inflamed; but instead of the smooth appearance usual in inflammation of this membrane, it is rough and granulated, which at this period is the most distinctive character of the disease.

At this time, the conjunctiva covering the ball of the eye is scarcely affected. But if the disease is permitted to go on, or the most active measures are not used to arrest its progress, the palpebræ becomes much swollen, a puriform discharge takes place from the diseased organ, the inflammation extends to the ball of the eye, and the patient complains of severe pain in the orbit and forehead.

In some cases the attack is more severe, and the patient is seized with pain at the commencement of the disease.

As it continues its progress, the above symptoms become more aggravated, the swollen lids become everted, or so united

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* London Medical Journal, Vol. XXV.

as to be opened with difficulty. If the cornea can be at all seen, it is found cloudy and bathed in purulent matter.

The pain is most excruciating. If a ray of light happens to fall on the retina, the patient starts as if a sharp instrument had been thrust into the eye. The integuments about the eyes and forehead are inflamed, the pulse becomes quick and hard, skin dry, great thirst and other symptoms of fever appear, the agony of the patient becomes almost indescribable, he is unable to rest day or night, neither can he remain long in one position. In cases where the tarsi come in contact, the purulent matter is pent up for some time within the eye-lids, in others where they are separated, it flows out mixed with tears, and is so acrid as to irritate the eye exceedingly.

If the cornea can now be seen, it is found studded with small white spots, which are the commencement of ulceration. These gradually increase in size or unite, the whole cornea enters into suppuration, the iris is laid bare, the lens and vitreous humour are protruded, and not even the form of the eye remains.

If, however, the ulceration be small, and penetrates deep in the cornea, the latter bursts, the aqueous humour escapes, and the orifice is stopped by the procidentia iridis. As the whole compages of the eye, locked in the orbit, are much compressed from their distention, and are excessively painful from the delicacy of their structure, this bursting of the eye which is usually dreaded, is followed by almost immediate relief. The inflammation gradually abates, and is sometimes followed by a partial restoration of the organ.

The disease is not, however, always so destructive in its effects, and frequently terminates with an obstinate opacity, and thickening of the cornea.

The extreme sensibility to light, and the great pain on exposure, is probably owing to the motion of the ball in the socket, and is easily accounted for when we consider the distended and inflamed state of all its parts, which is probably itself one cause of pain.

May not the opacity of the cornea, which is so common a sequel of this disease, be owing in some measure to the pressure on the cornea, by the same distention? As it is a fact which has been sufficiently established by Barclay and others, that pressure will have that effect.

The disease varies considerably in the rapidity of its progress. In some cases, it is said that ulceration of the cornea has taken place within ten or twelve hours from the commencement of the disease; in other cases, some days elapse.

Those who are subject to sore eyes, and those who have weak eyes, evidently suffer more than those who have strong and healthy ones. The disease, if not more violent, is thought to be more obstinate and difficult of removal in persons of a scrophulous habit.

As the disease is evidently of a highly inflammatory nature, and the organ concerned can suffer no derangement in its structure without manifest injury to its functions, our first and great aim must be to produce a termination by resolution, and this we may reasonably hope to do if called within forty-eight hours after the commencement of the disease; but such is the tendency to ulceration, that our best directed efforts frequently fail when it goes over that period.

Venesection *ad deliquium*, opening one or both temporal arteries, as one or both eyes are affected; leeches to the eyes and temples, cupping the temples, drastic cathartics, blisters, cleaning the eye frequently by injecting warm water, or milk and water between the lids, and keeping them covered with a pledget wet in diluted liquor plumbi, constitute the treatment universally recommended by the English surgeons. The French, on the contrary, recommend bleedings of twelve and sixteen ounces, repeated if necessary, and followed by a mild cathartic.

It is evident no precise rule can be given, but that the surgeon must be governed by the constitution of his patient, the violence of the disease and other circumstances connected with the case. There can, however, be no doubt that the treatment of the English corresponds best with the customs,

habits, and constitutions of our citizens. I have known a patient labouring under this disease lose between fifty and sixty ounces of blood the first sitting, and this repeated until he lost one hundred and fifty, or before the disease was subdued. This man recovered more rapidly and more perfectly than any other within my knowledge, who had it equally severe. It has been objected to depletion from the temporal arteries, that from the facility with which arteries conform themselves to their contents, it produced less effect than the same quantity drawn by cupping or leeches.

There is undoubtedly an advantage in drawing the blood from the neighbourhood of the diseased organ, and if a sufficient quantity can be drawn from the eyes and temples, it is evidently better than from the arm, but we should endeavour at all events to make a decided impression on the system. As time is of the utmost importance, it will not do to wait and try the effect of blisters, collyria, &c., before we resort to depletion. After bleeding, we should administer an active cathartic, blisters should be applied behind the ears, or to the back of the neck, or both, according to the violence of the disease.

The eyes should be frequently cleansed by injecting with care some tepid lotion under the lids, kept cool by the application of a solution of cerus. acetas, and the patient excluded from the light.

If the pain and inflammatory symptoms do not abate within eight or ten hours, we should repeat the venesection.

If there is any ulceration present, it will be necessary as soon as the inflammatory symptoms abate, to apply the hydrar. ung. nitrat. reduced, or some similar ointment, to check its progress. If small ulcers still remain on the cornea after the inflammation is entirely removed, they may be touched with a pencil of argent. nitras in substance.

It not unfrequently happens that the conjunctiva of the palpebræ remains thickened and ulcerated long after all symptoms of inflammation are gone. In such cases it has been recommended to remove it by excision, but we can

usually succeed in removing it by everting the lids, and making a free application of the nitrate of silver, which is preferable to removing it with the knife or scissors. The lids should be carefully washed before they are returned to their place, and this application repeated every day until the granulations are entirely removed.

In cases where the ulceration has penetrated through the cornea, and there is a prolapsus of the iris, it will sometimes spontaneously recede, in others it remains or forms adhesions to the cornea. Protrusion of the iris is known by the appearance of a small dark tumour, which varies from the size of a pin's head, to that of a small pea; and from the appearance of the pupil, which is always distorted and drawn in a direction towards the tumour. The patient complains of a sensation similar to that when there is some extraneous substance in the eye.

When the tumour is large, a portion may be clipped off with the scissors, and the remainder reduced with caustic, but when small, we should trust to the latter alone. A pencil of the argentum nitras is the best; it should be cut to a small point, and the prolapsed iris frequently touched with care until it is reduced below the level of the cornea.

One of the most frequent and troublesome terminations of this disease is the thickening and opacity of the cornea.

The cases which I have had an opportunity of witnessing, were what Frick terms leucoma, and consist in the formation of a pseudo membrane.

The opacity is sometimes circumscribed, and covers only a part of the cornea. In others it affects the whole cornea, and vision is totally destroyed. If the patient is not completely blind, he always sees best in the twilight, or in an obscure room, on account of the pupil being expanded, and a greater number of rays of light being permitted to reach the retina.

There is no affection of the eye for which we have a greater variety of prescriptions, than for opacity of the cornea; and perhaps few affections in which we so frequently fail of suc-

cess. It is probably owing in some measure to this frequent failure that the number has been so multiplied. In addition to this, it is found that there is no single application, however beneficial at first, which does not lose its power by use; hence results the necessity of frequently varying our remedies.

If the opacity is but slight, we should commence with some slightly stimulating collyrium, as a solution of argentum nitras, or perchloride of mercury, half a grain to the ounce of water. When the patient is nearly or wholly blind, the opacity of a dull white or pearl colour, we shall be compelled to resort to stimulants of a more active kind.*

They should be applied with a hair pencil, and only to the part affected, as they would produce too much irritation if applied to the whole eye. Powdered glass was at one time recommended to be blown into the eyes in cases of opacity, but this is now justly reprobated.

It should be remembered, that the object is to produce only temporary excitement, otherwise we might by producing inflammation, rather promote than remove the disease.

It not unfrequently happens that the opacity is kept up by a varicose state of the blood-vessels ramifying on the conjunctiva. I have even been able to see them distinctly with the naked eye traversing the opaque cornea in every direction. When this is the case, or the veins of the conjunctiva seem any way engaged, they should be carefully divided, and the operation repeated as often as they appear united.

Should we not succeed by these means in removing the opacity, we should unite an alterative course of mercury to those already recommended.

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* ℞ Mercur. sublim. corros. gr. j. opii colat. gr. viij. solve in aqua rosar. oz. ij.

℞ Liquor. ammon. caust. gtt. x olei nuc. jugland. oz. semis.

℞ Adipis suillæ præparatæ ℥ss. Tutiæ præparatæ Bol. armen. ℥ij. calcis Hydrarg. Alb. ℥j. misce.

The gall of the ox, sheep, &c.

Art. III. *Cases in* morbid anatomy. By A. L. Peirson, M. D. of Salem, Mass.

Diseases of the Rectum.

A gentleman forty-five years of age, of temperate habits and sedentary employment, about four years ago, was affected with symptoms which he considered to be those of hæmorrhoids. He had pain in the back, difficulty of passing his stools, and a discharge of blood per anum, sometimes very profuse, which was always followed by a sensation of relief. He had occasional attacks of severe pain and constipation of his bowels, which he supposed arose from bilious derangement, and which were relieved by the use of opium and powerful cathartics. About two years since he applied for relief at the Massachusetts General Hospital. After an examination of his case, it was considered incurable, and nothing was attempted by way of cure. He was directed to the use of extract of conium, of which he took an incredible quantity, without any marked effect and quieted the pain, which occurred more and more frequently and intensely, with large doses of opium in the form of black drop, of which he used many pounds during the last year of his life. Previously to his death his bowels became constipated, and the most powerful means used to procure stools were without effect. Among these may be mentioned the use of extract of stramonium, six grains of which were used as a suppository, and produced the most powerful relaxing effects which lasted many hours, but brought away no stools.

His death took place April 4th, 1825, having had no stool for the last twelve days. His stomach never became irritable, and his appetite and capacity to take food remained to the last. He was attended throughout his disease by my friend Dr. Parker of this place. I examined him minutely but once, when I was consulted in his case some months previous to his decease.

Examination of the body eighteen hours after death. Abdomen very tumid: in opening the integuments a small opening

was made in the bowels, from which a large quantity of flatus was discharged. The intestines were but little altered in colour, some streaks of inflammatory action were apparent. They were distended beyond their usual size. The colon was prodigiously enlarged, being equal in any part of it, from the caput coli to the rectum, to the ordinary capacity of the stomach. The ascending portion on the right side, reached to the liver, and was connected to that organ by organized lymphatic matter; it was also connected along the arch, by similar adhesion to the omentum and stomach. The internal appearance of the colon and cœcum was natural; and even at the valve of the colon, where morbid appearances are frequently present in chronic diseases of the viscera, there was no mark of diseased action. An examination of the rectum discovered the seat of the disease which could be plainly felt during life by examination, per anum, and which by affording a mechanical obstruction to the passage of fæces, was the cause of the intense pain suffered during life, and ultimately of death. The alteration of structure commenced about two inches from the orifice of the anus, and extended four inches farther along the rectum, occupying its whole circumference with a mass of soft fungous excrescences resembling papillæ; the whole appearance being similar to that represented as belonging to the cauliflower excrescence of the uterus. The obstruction of the bowels was very complete, being much like that which would take place from filling so large a portion of the rectum with soft sponge. The prostate gland and urinary bladder were healthy, and there had been no symptoms during life, indicating disease in any organ in the neighbourhood of the rectum.

The drawing representing this tumour, taken by my friend Mr. J. Webb, from the preparation of the diseased parts in spirit, shows the well defined and limited extent of the disease. A small portion of the rectum in a healthy state is seen below the tumour, and above, the line between the diseased and sound parts is perfectly distinct. The prominences are not represented in this drawing in sufficiently bold relief. This

case is in all respects essentially different from scirrhus, and in its soft and delicate texture, more nearly resembled some of the excrescences formed upon the internal surface of the uterus. A case related by Morgagni resembles it in many respects; but in that case there were ulcerations extending to the skin of the anus.* There are two circumstances particularly worthy of remark in this case; the first is, that such intense pain, and so much distention of the bowels should be accompanied by so little inflammatory action; and the second, that the stomach should sympathize so little in the diseased actions of this portion of the alimentary canal. This last circumstance would lead us to think that the stomach has less sympathy with this, than with other portions of the canal, since in strangulated hernia and ileus, the vomiting is so prominent a symptom.

Malignant Fungus.

June 14th, 1825. A little girl four and a half years of age was placed under my care. She had been living in the country, and had declined in her health for about six weeks, during three of which an extraordinary tumefaction of the abdomen had been observed. I found the belly enlarged by two distinct tumours, one occupying the epigastric region and extending to the umbilicus, the other lying in the pelvis, and rising out of it in the manner of the uterus during gestation. Both tumours were moveable. The countenance was pale and pinched, the body somewhat emaciated, the tongue clean, the appetite irregular, but for the most part sufficiently keen. There was but little pain complained of at the time. The urine was for the most part healthy, but occasionally mixed with blood. and small strings of fibrous matter which passed with difficulty. The parents of the child had not been subject to scrofulous diseases. An unfavourable prognosis being made to the parents, thirty leeches were applied to the

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* Morgagni de sed. et caus. morb. xxxii. 7.

tumours, and the child was directed to take the following mixture.

℞ Sol. Muriat. Calcis. ℥i.
Tr. Muriat. Ammon. et Ferri. ℥ſs. M.
℥i. ter in die sumend.

It was ordered to rub the abdomen night and morning with the following ointment.

℞ Hydriodat. Potass. ʒi.
Ung. Simp. ℥i. M.

A diet of milk and farinaceous articles was prescribed, and the child was ordered to be plunged in cold sea water every forenoon. The treatment was continued for twelve days, during which time the tumours enlarged rapidly—the appetite diminished—the bowels, which had heretofore been regular, or responded to small doses of castor oil, or mild enemata, now became constipated, œdematous swellings occurred about the fundament, and the lower extremities swelled. There was frequent desire for micturition, and ineffectual efforts at stool. The bathing was now discontinued, the strong mercurial ointment directed for the bowels, and a brisk purge administered; the operation of this was followed by a more comfortable state, and it was repeated on the next day but one. The chalybeate was omitted, and a cordial diet allowed. The size of the tumours continued to increase, and the patient's strength to diminish, till the 3d of July, when she died.

Sectio cadaveris four hours after death. The cavity of the abdomen contained a few ounces of serum, in which floated flocculi of lymphatic matter. The viscera, in situ, exhibited the following appearances. The omentum devoid of fat, was thickened, of a deep red colour, and adhering to the intestines in the neighbourhood of the diseased growth. Nearly opposite the umbilicus was a diseased mass, occupying the mesentery of that portion of the ileum immediately connected with the cœcum, lying flat upon the spine, and involving a duplicature of the bowel; in size it was rather more than could be covered with the hand. On removing the omentum

and lifting up the tumour, a portion of the bowel gave way, and a quantity of foul dark coloured fluid issued from an irregular disorganized cavity, which opened into the bowel, and exhibited no appearance of common ulceration. The bowels, where they were in contact with the tumour, exhibited an uniform structure with the tumour itself, which was firm, white, and moderately hard. In those parts which approach nearest to the cavity before mentioned, which for want of a more appropriate title, we called an abcess, the texture of the tumour was less consistent, and when cut into, exhibited a dark brownish appearance. The mesenteric glands generally were enlarged in a small degree.

Another tumour was found occupying the whole cavity of the pelvis, and involving the uterus, bladder, and rectum. A small hole in the fundus of the bladder communicated with the interior of the tumour, and a round substance of a dark colour and fibrous structure as large as a chesnut, was found loose in the bladder. This inferior tumour was in structure like the preceding, except that when cut into, it exhibited only the whitish appearance of the medullary substance of the brain, and was more solid. The two diseased masses had no connexion with each other. The stomach, liver, spleen, and pancreas, were healthy; the lungs exhibited no marks of disease, and were entirely free from tubercles. A small tumour similar to the preceding, was found on the thoracic side of the diaphragm.

REMARKS.

The unusual occurrence of this disease, not allowing us frequent opportunities for discrimination, we were induced to consider it at first as a scrofulous affection. Enlarged mesenteric glands, particularly if attended with worms and accumulation of fæces, and tuberculated accretions upon the peritoneum, would have produced some of the symptoms, but its rapid progress alone, there being no appearance of a suppurating process, gave sufficient evidence of its malignant character sometime before death. It will probably be considered

medullary sarcoma, but it had more firmness and was destitute of the hemorrhagic character which that tumour possesses in other structures; and it had also a property which is possessed by carcinoma, and which is supposed to distinguish that affection from the one in question, viz. that of producing a degeneration in neighbouring structures by which they are all converted into a uniform mass. Mr. Abernethy expresses the result of almost every surgeon's experience, when he says, "these diseases (tumours) resemble colours in this respect, that a few of the primary ones only can be discriminated and expressed, whilst the intermediate shades, though distinguishable by close attention and comparative observation, do not admit of description or denomination."*

Art. IV. Remarks *on* Amputation. By Nathan Smith, M. D. Professor of the Theory and Practice of Physic and Surgery in Yale College.

It is not my present purpose to give a history of amputation, or to point out the various improvements which have been made in that operation by different individuals, but to contrast the method which I have adopted with the present mode. I say the present mode, for, as far as I know, amputation is performed generally in a similar manner throughout the United States and Europe, which is as follows: The tourniquet being fixed on the limb, the operator standing by the side of the patient, with an assistant, who draws up the flesh, so far as to straiten the skin with a long straight-edged knife, makes a circular incision around the limb through the skin and cellular substance down to the muscles. He then separates the adipose membrane from the muscles with the scalpel, and folds it back on the skin, and in this manner lays the muscles bare to a certain distance above the place

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* Surgical Works, Vol. II. p. 106. Lond. ed.

where the skin was divided. He then cuts the muscles down to the bone, as high up as they are laid bare, and having again separated the muscles from the bone to a certain distance above where the muscles were cut, retracts the soft parts, and saws off the bone, as high as the muscles have been separated from it. The arteries being tied, the soft parts are brought together and secured by sticking plasters.

This I believe to be substantially the mode of operating in this country, and when the operation is nicely performed, and a due proportion of soft parts is preserved to cover the stump, and well secured, the cure is effected in a short time, and the stump is a pretty good one. But in an operation of so much importance, and attended with such serious consequences to the patient, as amputation, every circumstance which can render the operation less painful, or effect a cure with less inconvenience, or obviate with more certainty the accidents that occasionally produce a bad stump, deserves attention.

The objections to the present mode of amputation, as I have above described it, are, 1st, that in the most perfect operations, where the soft parts are brought together, so that the edges of the skin on the opposite sides meet each other, the stump will be angular, that is, there will be two projecting portions of skin, one on each side of the limb, which give it a disagreeable appearance, and when healed, will render it liable to excoriation and inconvenience from an artificial limb.

2d. As the skin and cellular substance are to a certain extent separated from the muscles, and project or fall below the cut muscles, the end of the bone will be covered sometimes by the skin, and cellular membrane only.

3d. As there can be no rule given for the length of the soft parts, which are to be preserved to cover the end of the bone, which will apply to limbs of different sizes, it must be left to the surgeon, whilst operating, to judge how far he will separate the skin from the muscles, and the muscles from the bone. And as a large limb will require much larger flaps to

cover the stump than a smaller one, it happens occasionally that in large stumps the bone will project, whilst in small and emaciated ones, the soft parts will fall too far below the bone, and form a kind of *pouch*, which is sometimes filled with matter during the cure. Charles Bell acknowledges that such accidents frequently happen in the hospitals, and I have known them in private practice.

Now a method of operating which will with certainty obviate all these unpleasant circumstances, that will form a round and seemly stump, without any projecting angles of the soft parts; that will cover the end of the bone, not only with skin and cellular substance, but with muscles, and will also preserve just the length of the soft parts requisite to cover the stump without straining, or without any superfluous portion, should undoubtedly be preferred.

The following method I have found to possess all the advantages above stated.

Having fixed on the part where the operation is to be performed, let the operator take a piece of paper of sufficient length to encircle the limb, and four or five inches in width, and apply it around the limb, so as to obtain the exact measure of it, and all the superfluous length should be cut off. It should then be folded, and the ends of the paper laid together upon a table, and a semi-circular arc drawn with a pair of dividers, by placing one leg upon the middle of the lower side of the paper. The paper cut off upon this line will form two equal semi-circles; and when placed upon the limb, will describe two semi-circular arcs, meeting at two angles. These lines should be marked upon the limb with ink or crayon.

Then whilst an assistant draws up the skin so as to straiten it moderately, the operator with a short knife having an edge on the convex side, passes his hand under the limb and fixes the point of the knife on the side farthest from him at the angle where the two semi-circular lines meet; with the edge of the knife turned obliquely upward, he cuts in the direction of the line through the skin, cellular substance and

muscles down to the bone, with repeated strokes. Thus having divided one-half of the soft parts of the limb, he passes his hand above the limb, and fixes the point of his knife on the angle where he began, follows the line upon the upper side of the limb till it meets his first incision. He will then have two semi-circular flaps, composed of all the soft parts connected by their natural adhesions; these are to be turned back, a retractor applied, and the bone sawed off. After the arteries are secured, the flaps are to be brought together and secured by sticking plasters. If the operation is performed in this manner, the time taken up will be a little less than in the common method; for there is no skinning up of the adipose substance from the muscles, and no necessity of cutting with a guarded stroke, to prevent cutting the muscles. I generally endeavour to cut through the cellular membrane into the muscles, the first stroke, and then follow this incision down to the bone.

In this operation, if the method I have described be followed, the soft parts will be in exact proportion to the stump; for by measuring with the paper, and marking as above directed, the flaps will come together with mathematical exactness, whatever the size of the limb may be, for their length must be in proportion to the size of the limb.

The soft parts will therefore come together without stretching, and will be easily retained in their places. The stump formed in this manner is covered not only by adipose substance, but by muscles, and is better cushioned with flesh, and from repeated opportunities of comparison, it is well ascertained that such stumps are more calculated to accommodate the machinery of an artificial limb.

There is still another advantage in this mode of operating, which is, that it is often in the power of the surgeon to save a greater length of limb than could be done in the common mode; for where the skin is diseased, being ulcerated or having fistulous openings in it, I have frequently made my incisions in such a manner, as to bring the diseased part of the skin in the angles between the semi-circular lines, having

the flaps extend some ways below; so that an inch and a half of stump has been saved, which would have been lost by the circular incision; and as a general rule, it may be observed that the longer the stump is, the more useful it is to the patient. And if I am not mistaken, the patient experiences less of those spasmodic twitches of the muscles and tendons after my operation, than are usually consequent upon the former method. This I attribute to the circumstance of a greater length of muscles being left projecting below the bone, connected by their natural adhesions; so that when brought together, and retained by adhesive plasters and cross bandages, they are secured and kept steady by pressure.

The operation I have described can be performed with any knife that has a sharp edge, but the knife in common use is not so well adapted to this mode of operating as another form, and if any surgeon will make the experiment, it will be found that the knife, which I have delineated, will be found more convenient even in making the common circular incision around a limb, than the long straight-edged knife. Being shorter, the hand has a more perfect command of it, especially its point. The convexity of its edge likewise renders less force necessary to cut through the flesh. The desire, which some operators seem to have, of cutting a great deal at one stroke, arises from want of experience; for in fact it makes no difference whether we cut all together with a drawing stroke, or whether we push the knife in a contrary direction; if the edge is perfect, the operator will find no difficulty in dividing the soft parts on account of the shortness of his knife, and the shape which is delineated in the plate is better adapted to cut the angles marked out on the limb than any other form.

I have given a drawing of a limb with the semi-circular lines made on it, appearing as they do before the operation is commenced. In amputating the thigh, I generally make the angles on the outer and inner sides as marked on the drawing, except in cases where I operate so high up as to have the artery exactly on the inside of the thigh; in that

case I make the angle a little above or below the artery, so that the artery may not come directly in the angle between the two flaps, which might render it a little more difficult to take up; although this has happened to me, and the artery was secured without difficulty; or if there should be any disease in the soft parts, so situated that by making the two angles in a different part, more length of stump can be saved, they should be placed differently, for it does not make much difference in amputating a thigh where we make the angles.

In amputating the leg below the knee, the angle should be made the one anteriorly, and the other posteriorly; for if the angles are made as in the thigh, the one on the inner, and the other on the outer side, when the flaps are brought together, the flap on the anterior part of the leg will fall over the sawed edge of the tibia, which will be apt to cut through it.

This happened in one case where I operated in this manner; but by making the angles one anterior and the other posterior, the flaps will approximate in a very easy and handsome manner, and the diameter of the leg is less from right to left, than from before backward.

The mode which I have recommended for the amputation of all the limbs, has been practised by Charles Bell, in amputating the fingers, toes, and also the fore-arm. In amputating the fore-arm, one angle is to be formed over the radius, and the other over the ulna. In amputating above the elbow, the angles and flaps may be adapted to the circumstances of the case or convenience of the operator, who will always find it most convenient to stand so as to have his left hand towards the upper part of the limb; therefore, when he operates on the right arm, he will stand behind the patient; and when he operates on the left, he will stand before him.

The sticking plasters I have used have been applied differently from the common method; instead of applying them in large strips, I cut them in the following method; take a strip fifteen inches in length, and two in width, and by

doubling it in the middle, divide it in the manner represented in the plate.

In applying a strip, the shoulder should come within half an inch of the cut edges of the skin ; and the corresponding one in a similar manner on the opposite side ; draw the tongues of the plaster across the stump till the edges of the skin are brought together ; when they are to be secured. This mode approximates the edges more closely than is done in the common manner, and is equally applicable to all cases where the object is to unite divided parts by sticking plasters.

This mode of amputating I have followed for the last twenty years, during which time I have performed the operation a great number of times ; and during that period, have never had a bad stump, or any trouble about the length of the flaps.

Lately, some improvements have been made in the mode of performing the operation. The knife recommended is a long straight catlin, double-edged at the point. It is intended to transfix the limb, and then to cut obliquely outward, forming two semi-circular flaps similar to those made by my operation.

The suggester of this improvement estimates very justly the importance of leaving the parts of the stump connected by their natural attachments, and thinks that by cutting in this manner, the patient suffers less pain.

I have not had an opportunity to put this mode of amputating to the test of experience on the living subject, but have repeatedly performed it on the dead. It may be performed with this kind of knife very neatly and speedily, and in most cases, I think it preferable to the other mode of cutting from without inwards. The stump will be the same in both cases, if the flaps are alike and of a proper length for the size of the limb ; but I would advise that the limb should be marked by an exact measurement in the manner I have described above.

I have mentioned the use of the tourniquet, but it is more than ten years since I have used the common one. The instrument should indeed be condemned as worse than useless. The means I have employed to stop the hæmorrhage, are the

handkerchief and stick, which are easily and quickly applied, not liable to slip or break, and are always effectual. Their application is simple, being nothing more than tying the handkerchief loosely round the limb, passing a piece of wood a few inches in length underneath it, which upon being turned, produces a powerful and quick compression.

Mr. Symes has made what he considers as an improvement in the method of restraining hæmorrhage; which consists in making direct pressure on the artery alone, and thus diminishing the quantity of blood in the limb. When the artery is effectually compressed a few minutes before the operation is commenced, it must certainly have that effect.

An objection against the common form of the tourniquet acting with a screw, is that it operates so slowly, as to retard the blood in the veins some time before the circulation in the artery is stopped; consequently the limb contains more than its due quantity of blood when it is amputated.

This objection does not lay so much against the handkerchief and stick, which operates much quicker, and if the precaution is taken to elevate the limb above the body a little while before the handkerchief is fitted, and the stick be turned suddenly, this objection may be obviated; or if it was important that a small quantity of blood only, should be lost, the artery might be compressed a little before the handkerchief is straightened, and the operator would have a complete command of the hæmorrhage. This I think the preferable method; for if I have been correctly informed, the want of this precaution, and an entire dependence upon compressing the artery, has in one instance in this country, been attended with bad consequences, which would have been prevented by the method I have suggested.

It is certain that a pressure on an artery, which will prevent its pulsations in the limb below, will not always prevent the artery from bleeding when divided. In amputating an arm at the shoulder joint, pressure was made where the artery passes over the first rib; which stopped the pulse at the wrist. When the artery was divided, it projected a full

stream of blood. The end of the artery was grasped with the fingers, however, and tied so that no bad consequences ensued.

Upon the whole, I am decidedly of opinion that the method I have proposed is the safest and best.

Explanation of the Plate.

1. Amputating knife with the edge on the convex side, the blade about five inches long, and one inch wide.
2. Piece of paper long enough to encircle the limb, but folded up so as to be but half its circumference, and cut out by the dotted line marked by a pair of compasses.
3. Same piece of paper spread out.
4. Limb to be amputated; the dotted lines representing the marks made with the pen or crayon, guided by the two semicircular edges of the paper.
5. Appearance of the stump before the dressings are applied.
6. Imaginary section of the stump after it is healed.
7. Strip of adhesive plaster doubled and marked where it should be cut.

8 and 9. The same cut and spread out.

Art. V. Cases *of* Spina Bifida. By Ansel W. Ives, M. D. of New-York.

CASE I.

On the 1st of July, 1815, I was called to visit Delia Tuttle, aged five months. Her disease was spina bifida. Both the parents and the child showed an apparent predisposition to scrofula; and the father had been previously afflicted with various forms of that disease. I was informed that at her birth there was a soft hemispherical tumour upon the loins of the child, an inch and a half in circumference; that for some weeks subsequent to that time, it could by pressure be made to recede entirely; and that sometimes it had disappeared spontaneously; that when the sac was thus emptied,

the rough edges of the aperture in the spine, which was of the size of a half crown, had been distinctly felt. No effect on the brain had ever been observed from pressure on the tumour.

The patient was active and playful, and her health had been uniformly good, with the exception of involuntary evacuations of fæces and urine, which she had had from birth.

The tumour was situated at the junction of the dorsal and lumbar vertebræ ; it was tense, elastic, and semi-transparent, resembling very much a distended urinary bladder. Its circumference, at its base, was twelve and a half inches, and from the opposite parts of its base over its top, it measured eight inches.

Notwithstanding the discouraging testimony of Mr. A. Cooper, relative to cases of spina bifida with paralysis, still as his mode of practice, by puncturing and pressure, was the only one which offered a hope, in this case, it was determined to adopt it. In the course of the same day, the tumour was punctured with a common couching needle, and about an ounce of fluid as transparent as water was evacuated. A compress was applied over the sac, and made moderately tight by a roller. No sensible effect was produced. On the 2d and 3d days she appeared as well as before the operation.

July 4th. An ounce and a half of fluid evacuated, and dressings applied as before.

On the 5th and 6th she had symptoms of pain and gripings in the bowels ; otherwise no effect obvious from the operation.

7th. 10 o'clock A. M. I made an opening near the top of the tumour with an acute lancet, prepared for that purpose ; for it had been found impracticable, on account of the distension of the sac, to procure any considerable discharge from an opening by a couching needle. Three ounces of fluid were now discharged in about two minutes. The opening was covered with adhesive strips, and firm pressure reapplied to the sac. 4 o'clock P. M., the mother observing the child unusually stupid and sleepy, examined the dressings, which she found loose, and the tumour hardly perceptible.

Her countenance was pale; extremities cold; pulse feeble and quick; and she was completely comatose. I observed a deep depression of the fontenelle; and the scalp, at that part, was so completely destitute of support underneath, that I now concluded that the water in the tumour communicated with the brain. The tumour had principally subsided, and the sac lay flaccid on the fluid which remained. The opening was closed by adhesive strips, and covered with compress and bandage. The moment pressure was made upon the sac, and the fluid pressed into the spinal canal, the depression at the fontenelle was raised, her breathing, which had been stertorous, became natural; she was resuscitated, and became, almost instantaneously, active and playful. The quantity of water discharged at this time, could not be accurately determined, but it was thought to have been at least ten ounces. It is proper here to remark, that from early infancy the patient had been accustomed to the use of laudanum, and for some weeks previous to the time, when I first saw her, had taken twenty-five drops at a dose. Twenty-five drops had been given at 12 o'clock this day, and she was directed to take twenty drops at 9 o'clock the same evening. During the afternoon and night, she was apparently as well as before the last evacuation.

8th. The tumour was so rapidly distending, that it became necessary to relax the bandage; continued well during the day; at night took laudanum, notwithstanding which, she was restless, often screaming suddenly, and starting in her sleep.

9th. 7 A. M. Her skin was hot and dry, tongue white, bowels constipated, pulse quick and hard, and she refused the brea.. On removing the dressings, it appeared that the opening m de at the last operation, had not healed. Let off two ounces of fluid, of a straw colour, and re-applied the bandage with moderate tightness: prescribed calcined magnesia and calomel, each five grains. At 6 P. M. the medicine had produced two or three evacuations from the bowels. The violence of all her symptoms in the morning was increased; the

head thrown back, the eyes rolled upward, with pupils dilated; in short, she had all the symptoms of acute hydrocephalus.

10th. 9 A. M. She was so fretful the preceding evening, that the mother had given her twenty drops of laudanum, which quieted her the remainder of the night. She had had frequent evacuations of a green liquid matter from the bowels. Her head was still thrown back, and she was writhing and moaning with pain, though the violence of her febrile symptoms was in some degree abated. A third part of the surface of the tumour was inflamed; it was covered with compresses, wet with lead-water, and the roller loosely re-applied: she was directed to take, at short intervals, the chalk mixture. 6 o'clock P. M. She had been quiet during the day, and, when still, apparently free from pain. Pupils, however, much dilated; perspired constantly about the head and neck; extremities deadly cold; evacuations from the bowels more natural; appetite voracious, but the stomach immediately ejected every thing taken. She was directed her usual dose of laudanum in the evening.

11th. 9 A. M. Last night slept quietly; extremities still cold and trembling; head warm, and sweating profusely; the eyes more natural than the day before; appeared to be in pain, when moved, and was most easy with her head reclining back upon the neck. The tumour measured twelve and a half inches in circumference, and from base to base across the top seven and a half inches. 11 A. M. Same day, was again called in great haste. Was informed by Mrs. T. that the patient had lain quietly in the cradle, after the dressing in the morning, until a few minutes before she sent for me, when, perceiving the pillow and clothes to be extensively wet, she was led to examine the tumour, which, to her surprise, had all disappeared. I found the child lying in the mother's lap, and moaning as if in distress. The depression of the scalp at the fontenelle, confirmed the supposition that the sac was again emptied. She had no symptoms of coma, but her countenance was pale; her head and neck sweating

copiously; and her extremities cold. On removing the dressings, the sac was found completely emptied, and lying collapsed on a level with the surface of the body; it was considerably inflamed on one side, and gave pain when touched. The water had been discharged at the opening made at the last operation. The opening had been prevented from healing, by the rapid distension of the sac, and the continued dripping of water from the orifice. The edges of the opening were scarified and brought closely together, and the sac covered with a compress wet with a solution of the superacetate of lead. 6 P. M. Pulse feeble and quick; perspiration profuse from the head and neck; and extremities cold.

12th. A. M. Slept well the last night; the tumour measured five and a half inches from base to base over the top, and the inflammation of the sac continued without apparent alteration. In the morning, the febrile symptoms the same as on the preceding evening, but in the course of the day became more alarming; the whole surface of the body cold; the perspiration from the head constant and copious; head drawn back and rolled from side to side; eyes opened wide; pupils much dilated, and the whole countenance expressive of the most extreme anguish; the patient constantly moaning, though too much exhausted to cry, and frequently seizing the breast voraciously, but immediately turning from it, as if satiated.

13th. 10 A. M. Had slept half the night; pain apparently abated; warmth of the body partially restored; eyes appeared more natural; and her symptoms generally more favourable. The tumour measured the same as before the first operation.

14th. General health fast improving; perspiration from the head abated; heat of the body restored to a natural temperature, and her evacuations natural.

16th. With the exception of general debility, the patient was as well as before the operation.

22d. Her general health was completely restored, but she showed signs of pain when carelessly moved, or when pressure was made upon the tumour, which in size and appearance, was the same, except some increased thickness of the sac, as when it was first punctured.

24th. The adhesive strips were taken off, and the dressings discontinued.

Nothing more was done until the 16th of October, when I again visited the patient. I found the tumour remarkably tense, and measuring thirteen inches in circumference; the sac, also, had become considerably corrugated and thick. It should be recollected that the tumour, from the birth of the child, until the time of the first operation, i. e. five months, had increased in circumference *eleven inches;* whereas, from the 24th of July to 16th of October, nearly three months, it had increased only about *half an inch;* so that the treatment had nearly suspended its growth. I now wished to try the effect of drawing the water entirely from the brain, and I determined to evacuate the fluid, in large quantities and at short intervals, and omit the compression of the sac. Upon making a puncture, however, with a couching needle, the distension was so great, that no fluid could escape, and at the recommendation of my friend Dr. J. M. Smith, I procured a trochar, about the diameter of a common sized knitting-needle, which proved to be perfectly adapted to the operation.

Oct. 20th. 9 A. M. I drew off, with the trochar, five ounces of fluid, as limpid as the purest water, and closed the orifice with adhesive strips. After this evacuation, the pulse, for the first time, became irregular; it beat 100 in a minute immediately after the operation, and, in the mean time, intermitted four or five strokes. At twelve o'clock at noon, the sac was apparently as tense as before the puncture.

23d. Drew off eight ounces of transparent fluid. Towards the close of the operation, the patient appeared, for a short time, to be in great pain; and soon after became pale and languid, as if exhausted by copious bleeding; her pulse was

feeble; she had a constant wavering of the head, and a tremulous motion of the limbs.

24th. The countenance was pale; the pulse feeble, and all the symptoms indicated debility from the previous depletion. From this time the trial was again suspended; she soon regained her usual strength and activity, and, when a year old, could walk with facility.

On the 11th of march, the tumour was again measured, and found to be thirteen and a half inches in circumference. As the growth of the tumour had only kept pace with the growth of the child, I was strongly induced to make a second effort to empty the fluid and corrugate the sac, so as to contract it closely over the aperture in the spine. Could this be accomplished, it was thought, that, although the disease might not be effectually cured, yet the deformity would be removed, and the life of the child be relieved from the hazard to which it would be otherwise exposed by any accidental bursting of the sac.

Accordingly, a double-headed roller was prepared, with a cap in the middle, adapted to the size and shape of the tumour, so as to produce an equable pressure on the whole surface of the sac. This cap was applied over the tumour, and the bandage passed round the body of the child, so as to cross on the belly. The tumour was then punctured, while the bandage was drawn moderately tight by assistants. Three ounces of fluid were discharged, and the roller so applied as to prevent the possibility of its relaxing.

13th. The patient walked about the room without apparent inconvenience, and appeared to suffer very little from the operation. The dressings and sac were kept constantly wet with a decoction of nut-galls.

14th. Four ounces of fluid were drawn off; the tumour appeared to be contracting; firm pressure was continued.

15th. General health unimpaired; considerable local irritation produced by the bandage; the sac still kept wet with the astringent wash.

16th. Five ounces of fluid evacuated.

17th. Was fretful and restless; notwithstanding the utmost precaution, excoriations were produced on the belly by the bandage; the sac very much corrugated, and apparently diminished in size.

18th. Drew off six ounces of fluid, which was high coloured; she was yet able to walk the room.

20th. Strength obviously diminished by the last operation; evacuated six ounces of fluid.

21st. The excoriations produced by the pressure of the bandage were so extensive, the system was so much enfeebled by the evacuations, and the consequent general irritation so great, that the expectation of contracting the sac became hopeless, and the case was abandoned. The patient soon regained her usual health, and the sac its former size. The involuntary discharge of urine caused a troublesome irritation; otherwise, she has, to the present day, enjoyed more uninterrupted good health than is common to children of her age. She is uncommonly sprightly and intelligent, and has, indeed, from infancy, manifested much precocity of mind. The tumour is exceedingly tense, and now in the tenth year of her age, it is but sixteen and a half inches in circumference.

The following case, which was subjected to a mode of treatment similar to the foregoing, was furnished me by my friend Dr. J. Wood.

CASE II.

William, son of Mr. Orr, aged 9 years, full habit of body, countenance fallen, light-coloured hair and eyes, head large, fontenelles closed, pulse languid; he has partial paralysis of his right leg, and also of the bladder and bowels; he is sensible of the disposition to evacuate the bowels and bladder, but cannot retain their contents until a convenience can be obtained; thus he is constantly wet and filthy from the dribbling of urine, and discharge of fæces. This constant application of urine to his limb, added to the frequent falls, from the palsied limb giving way, induces sores on different parts of his leg and thigh.

This boy has had a tumour from his birth, situated about the junction of the sacrum with the lumbar vertebræ, and a little to the right of the spine. It has fluctuation which is very evident to the touch. When the finger is pressed in near the upper edge of the tumour, it is received into a cavity or hole, the boundary of which has a bony feel. Pressure upon the tumour produced but little alteration in the size of it. The symptoms attending this case left no doubt of the nature of the disease, and notwithstanding we are told, that when it is attended with paralysis there is no hope, yet the very uncomfortable state of this patient, as it related both to himself and friends, was a sufficient reason for endeavouring to afford him some relief—either by the means that have already been used in similar cases, or any other which the judgment of the physician might suggest. The means, however, that were employed in this case, tend only to confirm the opinion, that such cases are hopeless. It was intended to have tried the effect of a seton, passed through the tumour. But the child moving to the country with his parents, prevented it. The thickness of the coverings of the sac, together with the little effect produced by tapping it, induced a belief that a seton might be introduced, without danger to the life of the child. On the 30th September, 1817, the tumour was punctured with a couching needle. The smallness of the opening added to the oblique direction of it, and the thick integuments of the tumour prevented the ready flow of the fluid. A small quantity only of limpid fluid was obtained. On the 4th of October, it was evacuated by means of a small trocar, (made under the direction of Dr. Ives, and used by him in a similar case.) The quantity discharged at this time was about ℥iss. On the 6th, 8th, 10th, and 11th of October, it was punctured, and ℥ij of fluid at each time drawn off; 13th ℥vj. were discharged. The water had got into the cellular substance, and continued to ooze through the wound after the removal of the canula. 14th. Patient looks paler than usual; tumour larger in consequence of the fluid getting between the sac and skin; drew off ℥iss. Patient complained

greatly of his head, and became very pale; pulse languid but regular. Some times after the operation, the pulse became irregular. 15th and 16th. The trocar was introduced, but no fluid passed through the canula. It oozed through the wound as before, after withdrawing the instrument. 20th. Tumour much flatter; skin thickened where the punctures have been made. 28th and 29th. Full ℥ij. of fluid were drawn off at each time. At these last two visits, pressure being made on a particular spot at the upper part of the tumour, the child suddenly screamed out with pain, at the same time placing his hand upon his abdomen; a gurgling noise was produced by the pressure. The child now removing into the country with its parents, I was prevented from prosecuting the treatment any further.

From the facts stated in this case, it will readily be conceded, that although they do not prove the utility of the practice of letting out the fluid, they certainly show that much more energetic measures may be made use of in spina bifida, than have generally been admitted.

Art. VI. *An* Account *of an* Epidemic Erysipelatous Fever *prevailing in Westchester and Putnam Counties, in the State of New-York.* By James Fountain, M. D. Fellow of the College of Physicians and Surgeons of the University of the State of New-York.

The character and constitution of epidemics vary so essentially, and present so many anomalies at different periods, that the most wary are often betrayed into errors fatal to their patients, and painful to their own feelings. Thus, at the irruption of an epidemic, the aged practitioner possesses but limited advantages over the mere initiate. His experience avails him little, and his theory less; for his preconceived notions are often drawn from the dogmas of the schools, frequently the fruitful source of prejudice and blind obstinacy. The regular systems of study, instead of relieving, serve only to perplex his judgment, and misguide his hand. Under

such difficulties we are naturally led to turn to the journals from whose pages we can reap the fruits of the labours of those who have gone before us. We there see facts faithfully recorded, and deduce therefrom inferences which serve as beacons to direct our cautious steps. Hence the necessity of treasuring up the history of epidemics and the mode of treatment found most successful. Armed with a knowledge of these facts, the physician is enabled to proceed with a degree of decision, otherwise unattainable; except through the medium of that self-sufficiency which proceeds from the hardihood of ignorance or obtuse sensibility. Experimentally acquainted with these trying difficulties, I am induced to contribute my humble mite to the stock of medical history.

That section of the country visited by the epidemic I am about to describe, is comparatively small, comprising a space of about twenty miles only in diameter, and forming the lower part of Putnam and upper part of Weschester counties. Its central part is sixty or seventy miles north of New-York, and fifteen or twenty miles east of West Point on the Hudson. The aspect of the country is agreeably diversified by hills and valleys. The hills are mostly gently sloping, and generally cultivated to their summits. In the western part of this district, bordering on the highlands, however, they are more precipitous, and the intervening land more broken. They appear to be made up of enormous masses of granite thrown up from the foundations of the earth by Hutton's fires, or some other violent power beneath. These are interspersed or loaded with ponderous coverings of marl, over which is a clayey or silicious subsoil; and this is overspread with a tolerably thick soil of calcareous, silicious, and vegetable matter. Occasional beds of primitive coarse limestone appear, with some inferior ones of lead, iron, carburet of iron or plumbago, sulphurous combinations, and probably some gypsum or plaster of paris.

Within the space mentioned are no less than eight lakes, varying in size from one to six miles in circumference. Amongst these, the beautiful Mahopac holds the pre-eminence. It is about six miles in circumference; its water

is transparent and sweet, and is, probably, destined ere long to contribute to the refreshment and salubrity of the emporium of America; [New-York.] These lakes have scarcely any marshes, neither are there any of any considerable extent to be found in this whole tract of country. The water is generally good, though some wells and a few springs are impregnated with sulphate of lime.

The inhabitants are, with few exceptions, a set of industrious and healthy farmers, and their houses are mostly kept clean and comfortable. Cider is their common beverage, than which none is better calculated to facilitate the digestion of animal food, on which the class of labouring people mostly live. The quantity of foreign spirituous liquors consumed is less than at former periods, and is daily diminishing.

The epidemic commenced about the first of February, 1825, and continued, in scattering cases, even as late as the first of August. The number of cases that occurred was not less than two hundred and fifty, and that of the deaths about thirty. Compared to many former epidemics, it appears indeed insignificant, yet it was attended with peculiarities not altogether uninteresting.

The weather either preceding or during this epidemic was not remarkable for any peculiarity. The autumn previous was uniformly pleasant and healthy. The winter was open and mild, with no greater vicissitudes than are usually experienced at this season. The spring opened early, and vegetation was very rapid. At the commencement of the winter, horses were universally affected with the slavers, so much so, that the subject of its cause became a common topic of conversation amongst the people. It was generally imputed to the fresh growth of under-grass immediately preceding the hay harvest. This was followed by a severe and universal epidemic (if the phrase be allowable,) amongst them, proving fatal to several, and a great annoyance to all.

As these appearances were observed to precede an epidemic by Ricketson,* I am inclined to believe they were the

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* Medical Repository, Vol. XII. p. 22.

primary effects of causes more fully developed afterwards, and rendered peculiarly incident to man, as was said of the plague,

> "On cats and dogs the infection first began,
> At length the fatal poison fixed on man."

About the same time the influenza became epidemic and general, not over this part of the country only, but throughout the State. It was attended with its usual characteristics, especially a most harassing cough. The type was moderately inflammatory; the lancet was seldom required, but mild emetics, laxatives, sudorifics, and expectorants usually put a period to the disease in a few days. About the latter part of January the influenza began to change its character. The cough diminished, and finally ceased to be a concomitant symptom, and was heard of no more; the throat became affected in a peculiar manner, and erysipelatous patches, as mentioned by Dr. Good,* appeared on different parts of the body. I must beg leave to observe, that ever since the prevalence of the epidemic winter fever of 1813, which was here unusually rife, occasional cases of that disease have occurred. This also appeared, and was very malignant in several persons.

February had now arrived, and the epidemic assumed the characteristics which it steadfastly maintained to its termination. Its invasion was sometimes without any premonitory symptoms, but it was commonly preceded a day or two with stiffness and soreness about the fauces, referred to the root of the tongue on each side of the larynx. On inquiry for the seat of uneasiness, the subjects uniformly placed the thumb and fore-finger of the same hand, one on either side of the upper part of the trachea, for both sides were generally equally affected, though not invariably. Those who had been subject to the quinsy, often mistook it for that affection,

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* Study of Medicine, Vol. II. p. 293.

but more commonly, however, it was supposed to be ordinary cold with relaxation of the palate, or "the palate down," as it is termed. There was very little swelling externally, or even internally, at any period of the disease. On inspecting the fauces at this time, a slight blush of redness was observable, of a venous or darkish hue extending across the margin of the curtain of the palate; the tonsils were very little swelled; the *velum pendulum palati* seemed every way relaxed, hanging lower than usual, and the uvula a little elongated. These appearances were at this time very slight; but unexpectedly the subject was seized with a chill, which sometimes amounted to a rigor, and with universal soreness and pain in the head, back, and extremities, which were often very severe. The pulse, at this period, was quick, small, and feeble. Soon, however, re-action ensued. The pulse now rose and became rapid and full, yet invariably soft and unresisting or gaseous, and the pains continued to increase to such a degree, as to have been mistaken for rheumatism, a fatal error, which occurred even to a medical man of considerable acquirements and experience. On inspecting the mouth, at this period, the tongue was observed to be covered with a thin dirty whitish scurf, moist, and sometimes yellow from the commencement. The whole fauces now grew red, dry, and peculiarly glistening, as if varnished. The redness was darkest over the larynx, pharynx, and whole fauces, and particularly across the edge of the curtain of the palate: from this dark arch the redness was growing fainter until it was lost in the roof of the mouth. The velum pendulum palati continuing to descend, the uvula finally rested on the root of the tongue, and was reflected up like a hook. As the disease advanced, it became stiff and permanently retained that figure until the inflammation abated; it then sometimes returned to its original shape, but more frequently the inverted apex sloughed off. Meanwhile the irritation continuing to increase, the urine became high-coloured, the skin dry and hot, and the general distress almost insupportable. The intestines were uniformly torpid throughout the

disease. There were slight remissions in the morning, but the evening exacerbations were severe. In a few instances, spasms of the larynx ensued, and the subjects were threatened with immediate suffocation for two or three days. Except in such cases there was not much difficulty either in respiration or deglutition. Neither was there cough in any stage of the complaint. As the disease progressed, the tongue became dry, yellow, brown, or black; and a number of small abscesses opened about the larynx, pharynx, and their vicinity; and the tonsils suppurated. These abscesses discharged little at first, but in a few days the whole fauces presented the appearance of a large concave irregular fungous ulcer secreting and pouring out an enormous quantity of pus, especially in old people. In mild cases, the disease terminated here; the ulcers healed, the skin became moist, and every symptom gradually disappeared. But in malignant cases, the fauces gangrened before ulceration, beginning at the margin of the palate, and death closed the scene on the third or fourth day. In old people death was sometimes induced by the excessive discharge of pus from the abscesses. Neither of these terminations however was frequent; but more commonly about the 5th, 6th, or 7th day the patient was observed to breathe with difficulty through the nose; and on its upper part across the ossa nasi a red patch was discovered glistening and smooth, slight at first, but a sure omen of portentous import. Like a cloud gathering gradually for a storm, it darkened and spread from every point until the whole face was lost in redness and tumefaction; the eyes were closed, the nose appeared to sink, the mouth was distorted, and the ears stood aloof, projecting and stiff, and from them and the nostrils a thin acrid fluid was continually oozing. The disease continuing, the redness deepened, verging to a purple, and blisters from the size of a sixpence, and smaller, to that of a dollar, appeared sometimes solitary, but more frequently in clusters. These were filled with a yellow serum, and the skin, or rete mucosum beneath them, was often purple, and even black, giving the whole visage an unnatural and terrific

aspect. This appearance spread from the edges, while the part first assailed rather improved in appearance, or even desquamated. It seldom descended to the trunk of the body, though in one instance I saw it spread over the breast and shoulders. Immediately on the appearance of the erysipelas on the face, the throat affection began to abate, and ceased entirely when the face became much affected. The general irritation, during this state of things, remained the same; slight morning remissions and evening exacerbations with restlessness, and sometimes delirium, heat, thirst, foul tongue, dry skin, &c., marked its progress. After four, five, or six days, the spreading ceased, desquamation ensued, the eyes re-opened, and the skin became smooth, retaining its redness, however, several days. This may be called the full course of the erysipelatous epidemic fever in a good habit when not interrupted nor diverted by interference. Convalescence was generally very rapid after such cases when properly managed.

I shall now notice some of the anomalous cases, or, as I usually term them, fortuitous locations, or misplacements of the disease.

Sometimes the fauces became suddenly relieved, and a most violent indescribable distress was felt in the stomach, intestines, or bladder. The lungs appear to have been exempt from the disease, so far as I have either seen or heard; in no case was there any cough more than what arose from the irritation of the matter about the fauces. I have known the stomach, intestines, bladder, and throat alternately the seat of the disease several days in rapid succession. When the bladder was affected, strangury, and frequently suppression of urine ensued. One case of affection of the bladder proved fatal the third day after its commencement. The symptoms of the affection of the stomach and intestines were similar, differing only in the seat of distress, except that when the stomach was affected, the prostration of the powers of life was much greater; and in one case, that of a delicate female, death from this cause speedily ensued. In both affections the pulse was quick, small, and soft, the countenance sunken, and

the thirst insatiable, much beyond what I have ever known in the most severe gastritis or enteritis. I have seen several such cases where gangrene and death ensued in a few days, yet the tongue was scarcely scurfed to the very termination.

These metastases to the abdomen were apt to take place on the third or fourth day of the attack. Often about this time, while flattering ourselves with the prospect of a favourable issue, a rigor suddenly announced the new attack, and death sometimes followed at a rapid pace. These abdominal affections were not always the effect of metastases from other parts, but were often primary affections. This may be thought, however, to require evidence. As to autopsic examinations in this part of the country, they are held as a gross sacrilege, and are therefore out of the question. The only evidence I can give then, is, that of the symptoms and termination, which were precisely those which followed the attack of the abdominal affection after that of the throat and other parts had suddenly disappeared. This I have repeatedly witnessed to my most poignant sorrow.

This disease is probably as deserving the appellation "hydra" as any other; yet this, as well as most diseases to which it has been applied, has seldom more than one head at a time, removing or placing it at pleasure on which part of the body soever it pleases. I have yet noticed but a small part of the anomalous forms of this disease. Two parts were often attacked simultaneously, yet they never, I believe, progressed together, for as one advanced, the other declined and disappeared. I have seen almost every part of each extremity attacked at different times. I have repeatedly seen the thigh, the leg, the arm, the fore-arm, the hand, or the finger, or toe, the rallying point, and terminate in resolution or gangrene, and sometimes in suppuration, which in large limbs formed deep and extensive abscesses. I had one patient, a girl eleven years old, in whom the vulva was the seat of the erysipelatous affection; it spread anteriorly up to her navel, and posteriorly from her shoulders to the midway of her thighs. She blistered, desquamated, and recovered.

At the accession of these irregular cases, the erysipelatous patch engrossing all the patient's thoughts, he paid little or no attention to his throat; yet on examination, I found the fauces invariably to wear that peculiar glistening purplish tinge, with a red halo along the margin of the velum pendulum palati. These appearances vanished as the erysipelatous patch enlarged.

These patches or efflorescences, which were never more than two, seldom more than one, always blistered and spread to various sizes according to the violence of the disease, the constitution, age, temperament, &c. of the subject in whom they occurred. In old people, and those of a choleric temperament, the throat affection was most usual and severe, and was prone to suppuration and gangrene. The young and those of the sanguineous temperament, were oftener affected about the extremities, and in them suppuration was often induced.

Another form of the disease is that of the affection of the glands; and those most frequently attacked were the axillary and cervical, though I have known the inguinal several times to inflame and swell, but never to suppurate. The axillary and cervical almost invariably, suppurated. They discharged but little at first, but like all other abscesses incident to this epidemic, they secreted an unusual quantity after the first twenty-four hours of their discharge. These tumours were not prominent, and never pointed, but were so diffuse, and the integuments so thickened, as to render it very doubtful whether they should be punctured or not. I opened many very hesitatingly, yet the event proved the decision very satisfactory. The copious discharge, in some way or other, afforded striking relief, and rendered convalescence very rapid. A young man was seized with the epidemic; the fauces and one cervical gland were simultaneously affected. The throat affection subsided, and the gland continued to enlarge ten or twelve days. Having reached its acme, it remained *in statu quo* with very little evidence of suppuration. I punctured it, however, but was very much mortified for

having cut through such a depth, and procured so small a quantity of matter; but the discharge continued to increase daily, and afforded him most evident relief. He had been comatose from the attack, and for some years has been heavy and considerably deaf. These soon vanished, and to use his own phraseology, he felt quicker and smarter than he had done for several years. When these glandular affections resolved, an erysipelatous halo frequently spread from them a considerable distance around; they then blistered, desquamated, and terminated favourably.

CAUSES.

Predisposing.—The predisposing causes of this disease, as far as I was able to determine, were cold, fatigue, watching, fasting or irregular meals, and anxiety of mind; in short, whatever debilitated, or in any way deranged the healthy order of the various functions. The phenomena of life, according to Richerand, is a constant struggle between the powers of vitality, and those causes which tend constantly to destroy the body. It must therefore be evident, that whatever disturbs the healthy order of actions, enfeebles the powers of vitality, and must, by giving morbific agents the ascendency, induce predisposition. General imbecility of healthy action not only opposes less resistance to the action of deleterious agents, but renders the whole system more susceptible to impressions of all kinds; hence irregularities and debilitating means call forth diseases, or rather allow them to be developed, even in those in whom the seeds of the disease were dormant, and would otherwise have remained so. This was strikingly exemplified in the late epidemic. Nothing was more common than to hear people complaining of slight sore throats. In fact I could scarcely look into a person's throat that did not bear evident marks of the affection; yet they frequently amounted to nothing more. The healthy robust yeoman, with his vigorous vitality and obtuse sensibility, withstood the morbific principle or tendency unmolested, until the susceptibility to the disease was worn out; for it is a law of the ani ma

economy, that the susceptibility to impressions of all agents not capable of destroying life, diminishes by the continuance of their application; and to this law, far more than to the science of medicine, we are indebted for the majority of our splendid cures of fevers.

Age.—At the irruption of the epidemic the aged appeared to be the favourite subjects of its attack, and in them it seemed to display its greatest energy. Few only recovered who had passed their 60th year; many died between that age and 45. There were no deaths under 30, that were not owing more to neglect or mismanagement, than to the malignancy of the disorder. Towards its termination it affected younger subjects, mildly however, and none, I believe, were affected under the 12th year of age. Sex did not appear to have any effect in predisposition, yet more women died than men.

Temperament.—Persons of the choleric temperament were more predisposed than those of other temperaments, though the sanguineous were often affected. The temperaments had more influence in shaping the character of the disease than in predisposing to its action.

EXCITING CAUSES.

The exciting causes, or those which gave origin to this epidemic, are purely problematical. My esteemed friend, Dr. Joseph M. Smith, of New-York, in his ingenious treatise on the philosophy of epidemics, has endeavoured to systematize their exciting causes. But in which of his classes this epidemic is to be assigned a place, I must leave to Dr. Smith to determine. In the meantime I must beg to observe that I cannot locate it in his 1st class, "*Contagious epidemics*," though the majority of the people, and some few medical men, believed it to be catching, or contagious. The former entertained that opinion because they could not, and the latter because they would not, be at the trouble to think and judge for themselves. When we see a disease spreading over a country affecting whole families, attendants and all, the idea that it is contagious springs up so spontaneously and readily,

and requires so little reflection, that it is not surprising it should be adopted by the mass of mankind; but from physicians we should expect better things than such hasty and unphilosophical conclusions. This epidemic originated amongst us. I saw the first, and as yet the last cases, and can bear testimony to their identity. One third of the subjects, and many of the victims of the epidemic, had not been near the sick. Simultaneous cases occurred miles apart, nor had they visited the sick, or been visited by those who had been amongst them. Several were so scrupulously exact, as not only to shun the sick, but to prohibit every person from entering the house who had been in attendance; yet those very persons sickened and died of the epidemic. And further, those who contracted the disease and sickened out of the district, did not communicate it to others. The circumstance of its affecting progressively the several members of a family, is easily and satisfactorily explained on the ground of predisposition. As soon as one of the family sickened, the whole became alarmed. The fatigue, the anxiety, the alarm, the watching, irregular diet, exposure to night air, wet and cold, so deranged the healthy order of the functions, that the disease, to the seeds of which all were equally exposed, was immediately developed. It is in this unfair way diseases take the advantage of our unprotected states of the system. We then surrender for want of order and energy to oppose.

Neither can I assign it a place in Dr. Smith's 2nd class, "*Infectious epidemics.*" It commenced in February, when all miasmatic exhalations were either locked up, or their generation suspended by frost. Neither could the disease have been the effect of miasms received anterior to frost, for visitors from the adjacent country were often the subjects of its action.

To his remaining class, "*Meteoracious epidemics,*" then we must refer ours, and to his 2d genus "*Insensible.*" To this also I must urge one objection. I cannot conceive how it happens that the atmosphere, which is continually driven over this section of the country by the storms of a tempestuous season,

should shed all its venom on this little devoted spot. During the whole time this epidemic raged, not a foot of air exterior to the houses, occupied the same spot a minute. It was constantly arriving from the north, the south, the east or the west, in rapid succession, and yet dropping its virus no where else, or working morbid changes on this people only, yet invigorating their neighbours, or passing harmlessly over their heads.

PATHOLOGY.

After having been so conversant with the disease, it will be expected that I should have been governed by some pathological principles. At the invasion of the epidemic a great diversity of opinion prevailed as to the nature of the disease. Some strenuously maintained that it was true cynanche maligna, others conceived it to be the influenza, while a third held it to be neither. But the universal absence of those ash-coloured spots, aphthæ or mucous sloughs, and coryza, and the appearance of others not attendant on cynanche maligna, induced the advocates for its being the putrid sore-throat to renounce their opinion. Neither was there any cough or pulmonary affection attendant during the whole epidemic, except in some phthisical subjects, and these were not confirmed by the complaint, but generally mitigated.

The disease, after a little sorrowful experience, was universally allowed to be of that class called asthenic. To the term "*asthenic*," as well as its kindred passive inflammation, I must beg to enter my protest as being a most decidedly injurious term. As for passive inflammation, it is a direct contradiction in words. Inflammation necessarily implies action, while "passive" implies suffering, not resisting, opposing, or acting. Chronic inflammation is another distant connection of the same family. Inflammation is the same, as far as the parts affected are concerned, whether active, passive, or chronic, differing only in degree or intensity of action; therefore, the *therapeia* necessarily growing out of these terms, must lead to fatal consequences in practice. The same, I admit, cannot be said of the term "*asthenic*," yet it is cer-

tainly very objectionable. It signifies literally a want of strength, which indeed is the case in the majority of diseases usually assigned to this class. There is a want of muscular and functional power, yet if this want of power is used synonymously, or confounded with want of action, as it frequently is, an erroneous idea is conveyed, for arterial action is often very brisk, and in febrile exacerbations even strong, while general debility is very evident. Besides a want of strength necessarily suggests the use of tonics or stimulants. Sthenic diseases, say the Brunonians, are remediable by the abstraction, and asthenic diseases by the addition of stimuli. Corresponding to this, the Italians have their diathesis of stimulus, and their diathesis of contra-stimulus. The former, say they, are to be cured by suitable contra-stimulant, and the latter by stimulant means. In this light, viewed curatively, all fevers must be struck off at once from the class *asthenic*, or diseases of contra-stimulus, for no fever ever yet existed which was capable of being cured primarily by stimulants. Because we cannot deplete, it does not necessarily follow that we must stimulate; hence the mischievous tendency of the term *asthenia*. Tommasini, the Italian, aware of this, referred all fevers, and almost all diseases, to the sthenic or *stimulant class;* and Broussais did as much in considering all fevers the effect of gastro-enteritis, or some other local inflammation. Neither of these views of diseases, commonly called *asthenic*, however, is correct. The Brunonians would stimulate, and the Italians and French would deplete their patients *to death*. The truth is, fevers called *asthenic* cannot be cured either by stimulation or depletion. Hence the necessity of another class, and such an one is called the *diathesis* of irritation. To this class belong all miasmatic fevers, as I shall show on a future occasion, and from therapeutical views, I must beg to locate our epidemic in this class. It consisted both locally and generally of an irritative action, determined by the susceptibility of impression or predisposition; and this, as before stated, in a deranged or enfeebled state of the functions generally; and as vitality de-

pends on a healthy and regular performance of these functions, the former must be debilitated when the latter are interrupted. The irritative is thereby enabled to preponderate and supplant the healthy action. In what this irritative action consists, I shall not attempt to determine. But it seemed to me to be intimately connected with venous congestion, in consequence of atony, or a loss of power or elasticity. As age advances, the veins become less irritable in a greater ratio than the arteries; hence they contain a larger proportion of blood which gives that purple hue to old people. Persons of the choleric temperament also have a preponderance of venous over arterial blood, therefore in them, as in old people, the disease was more severe. The number of subjects who recovered over sixty was only five, and these were all of strongly marked sanguineous temperaments. The younger the subjects, the more arterial action prevailed, and in them the disease was milder, approaching more to the inflammatory character. The countenance also favoured the idea of venous congestion, for it never had that florid hue which characterizes phlegmasial action, but wore a purple, and after a few days' continuance, a sunken and cadaverous aspect. The throat affection was evincive of the same state, being always purple or dusky in the centre, and redder towards the margin. When gangrene ensued, it always commenced at the centre, and spread every way. And lastly, the body of the tongue was indicative of the same state, being uniformly purple, more or less as the subject was older or younger, or the disease more or less malignant. This venous colour of the tongue and countenance, with other concomitants, has ever enabled me to distinguish *this* and the former *winter epidemic* from inflammatory diseases. When death ensued, the subjects had the appearance I should expect to see, had it been induced by suffocation, or a gradual deoxygenation of the atmosphere.

Why the veins should suffer a diminution of vital power, and permit a morbid distension more readily than the arteries, I am unable to determine. Why no two agents produce an

exact identity of action or effect, is, confessedly, yet to be learned. They produce an effect concurring with healthy action, or departing from it with progressive deviation, until they arrive at the most incongruous. Some undeviatingly produce a local effect. Emetic and cathartic substances introduced into the veins of the arm produce their specific action on the stomach or bowels, and operate with as much certainty as if they were taken in at the mouth. Why then may not some morbific agents produce an elective effect on the veins in preference to the arteries, and on one part of the body in preference to another. The difference between the venous and the arterial blood, and their velocity of circulation, may enable the arteries to resist or modify the effect of some agents, which the veins are not able to do. Hence the equilibrium, both of blood and nervous power will be destroyed, and the more easily, as the system is debilitated, or the healthy order of its functions deranged; and this, as before stated, is the precise effect of all the predisposing causes of this epidemic. I am therefore induced to believe that *this destruction of the equilibrium of the circulating mass and vital power, constitutes the essence, or proximate cause of our erysipelatous fever.*

The local affection seemed to have no agency in the production of the disease, and when located on the external surface, it did not, in the least, influence its general character; being simply the effect of a general action by which it was kept up and wholly modified. But it did not always cease with the general action, unless that had been soon suppressed, for by its continuance an inflammatory affection was developed; for as Tommasini says, " every diathesic process, either severe or slight, which can succeed to irritation, will be of the phlogistic character." Hence it was that every case of long continuation was prone to terminate in suppuration. This was unquestionably the effect of the development of phlegmonous action, which at first did not exist. This inflammatory character was not developed in the affected part only, but throughout the whole system; and this, I shall

subsequently show, proved a source of great embarrassment in practice. Internal, unlike external locations, materially influenced the character of the disease. This might have been expected from the nature of the parts concerned. They were, however, equally the effect of general action, both reciprocally modifying the character of the complaint. The continuation of these internal locations sometimes developed subacute actions and nervous phenomena the most singular and surprising I have ever witnessed. They were, *probably*, *inflammations* of the great sympathetic and other nerves of the abdomen or their tunics.

PREVENTION.

The principles of prophylactics are so easily and commonly understood, that I should have remained silent on this head, had not certain means been directed by medical men having a tendency not only to produce the disease, but the very worst consequences; I allude to the custom of drinking spirits. The practice of drinking ardent liquors, it cannot be denied, is of medical origin. It therefore becomes an imperious duty of every member of the faculty to discountenance an evil so pernicious, not only to the individual, but to society.

As a preventive of fevers, it cannot claim a character unless the person is under its constant influence. Dr. Rush observes, that habitual drunkards, who were all the time intoxicated, escaped the yellow fever: much better had they died sober victims to its fury. The excitement produced by a glass of brandy, is followed by a proportionate exhaustion. The subject is then in a state exactly fitted to be acted upon by disease. Hence it becomes necessary to be always either drunk or sober.

The only course to be pursued, as preventive, is to live soberly and regularly; to keep the stomach well replenished with wholesome food; to observe regular hours of sleep, and to maintain a perfect equanimity. Be calm, resigned, and fearless; for fear, grief, despondency, &c., powerfully derange the stomach, and enervate the whole system. Another great error also of medical origin is prevalent amongst the people.

I mean the use of debilitating medicines, emetics and cathartics. They powerfully debilitate and prove the means of predisposing to fever, as I have often witnessed. An intermittent will be brought back, and a dysentery induced during their prevalence by a smart cathartic. The bowels should be kept regular by diet, or the mildest laxatives, and well braced by wholesome food. It is time enough to take medicines when we are sick. But some physicians are so fond of displaying their wisdom, that they are eternally prescribing a dose to every one they meet; and many people are as fond of swallowing drugs, as they are of prescribing them. Hence some the practice is not surprising.

In this country all are more or less medical characters. They have read Buchan, now pompously styled, "Every Man his own Doctor;" Thomas's Domestic Medicine; or some other of equally mischievous tendency.

TREATMENT.

I have now arrived at the most important part of the subject, that part on which depend the life of the patient and character of the physician; at least, that on which a physician's character *should* depend. Yet how often does a subtle evasion, a smooth speech, or a few mysterious expressions delivered with a sanctified visage, even gain esteem and respect where disgrace and infamy should have been awarded.

This epidemic, like other diseases of a similar character, admitted of two plans of treatment. The one may be termed purely palliative, and the other curative and palliative. The first was adopted by those who aimed merely at assisting nature in conducting it to a safe issue. The latter was adopted by those who wished to take the work, as it is said, out of nature's hands. The palliative plan, as generally is the case, was pursued by the timorous part of the profession. Their object was "to assist nature in relieving herself." But they might with equal propriety say, "to prevent nature from destroying herself."

Palliative plan. This consisted in removing every source of concurring irritation, and permitting the disease to run

its course; that is, to continue until the system became habituated to the morbid impression. The susceptibility being then exhausted, the irritative process subsided, and a healthy action spontaneously arose. Occasionally, however, some vital part was worn out before the susceptibility to morbid impression, and death closed the scene. They commenced by administering a mild cathartic, repeating it every second day. The interim was filled up by giving some mild diaphoretic, as spts. nit. dulc. in some warm vegetable infusion; or powders of ipecac. camph. opii, and sometimes, though with what propriety I cannot see, the nitras potass. The proportions were varied according to concomitant circumstances, generally, however, in doses so minute as to produce no sensible effect. These were accompanied with tepid pediluvia, and plentiful dilution. The fauces were gargled with some mild vegetable astringent; and the erysipelatous patches were washed with a solution of acetis plumbi either in water or cream, so weak in general however, as to do no injury in young subjects. As the disease declined, they endeavoured to support the patient's strength by bark, wine, &c. which sometimes promoted convalescence, but frequently assisted in developing and confirming an inflammatory diathesis, which in this debilitated and complicated state of the system was difficult to be removed. This palliative plan, in young subjects affected with the epidemic in a mild degree, answered very well.

This plan of treatment is very congenial to the feelings of people generally, as it consists only in combating symptoms, or fighting for the patient. It gives the attendant an air of doing "every thing that could be done" for his ease and comfort, and is therefore well calculated to gain popularity. It is a common, and generally, a just remark, that the poor recover sooner than the rich; the reason of which is, they are treated *sans ceremonie*, with something more effectual, as subsequent consequences are not so much to be feared.

Curative plan. On the other hand, it is contended that the action excited by morbific agents has as great a tendency

in severe cases to destroy, almost as invariably, as to preserve life. The action produced by all morbific agents, is shaped by their quality more than their quantity, and modified by the degree of susceptibility of impression ; and this again, depending on a host of circumstances, varies in almost every individual. The effect then must be a diversity of movements, some deviating slightly only from the healthy action, others almost instantly counteracting that process, producing the utter extinction of life in a moment. Between these extremes there must be an infinite variety in the grade of effects ; and it would be perfect nonsense to contend that they all have the same tendency, namely, to unload the system, and re-establish health. They all depend on fortuitous and adventitious circumstances, and are never to be trusted, but moderated, counteracted, and supplanted.

For the removal of irritative fevers, there are but two methods justly entitled to the appellation *curative*. The one is, that of raising, and permanently maintaining an action more powerful than that which constitutes the disease, and whose influence we are able to control at pleasure. It most frequently happens, however, that the morbid action is so violent, that a greater cannot be raised consistently with safety. Few diseases are, therefore, remediable on this plan. Intermittents and mild remittents are the principal. When from the nature and intensity of the action, this method is deemed inexpedient, we have the other plan left. To change the order of diseased action, derange or break up the morbid concatenation, and thereby give the healthy the advantage over the morbid action. This is merely inverting the order of the causes and remedies of irritative fevers. We make disease and health, or rather the exciting causes and vitality, the pre-disposing causes, and the remedies antagonizing powers. I have stated that the pre-disposing causes, by deranging and breaking up the healthy concatenation of action, gave exciting causes the advantage, and disease ensued. I shall now show how the remedies, by deranging and breaking

up the morbid concatenation of action, gave vitality the advantage, and health ensued.

The first indication of cure, therefore, was to destroy the morbid action or concatenation, and thereby give the powers of vitality an opportunity of raising a healthy process over the diseased one.

The second indication was, to remove all concurring causes of the disease.

The third was, to support the powers of vitality, and thereby enable them to maintain the ascendency they had acquired. It will be readily observed, that the third indication is entirely dependent on the first, and must therefore immediately follow it, though they cannot both be fulfilled simultaneously.

The second indication is merely accessary to the first and third. For the purpose of fulfilling the first indication, it was my constant aim to restore the equilibrium of vascular action and nervous power. To this end I prescribed an emetic in every case. In young and robust subjects of rigid fibre, I frequently selected the tart. antimon. et potass.; but in all other cases I preferred the combination of ipecacuanha and tart antim., in the proportion of 15 grains of the former to two grains of the latter, to be taken at a single draught. The emetic was not given with a view to its evacuant effect, and in fact I seldom prescribe them for that purpose, not perhaps once in ten times. What little bilious matter they evacuate is of no consequence, and often was not in the stomach previous to emesis. It is not the action of the emetic on the stomach only, but the shock given to the whole system, on which its curative power depends. They thus restore the equilibrium of nervous power, propel the blood through the veins with increased velocity, and recuscitate their sinking powers. It is by the veins that absorption is principally performed, according to Magendie, and if so, their action must be increased, for tumours on distant parts of the body are rapidly diminished during emesis. Thus by increasing the action of the veins, diminishing that of the arte-

ries, throwing open the capillaries, and concussing the living fibre, the equilibrium of the circulation and nervous power is restored, and a truce given for the healthy action to arise. Thus I have known the disease suspended several hours, and sometimes wholly subdued. I always took the advantage of this recess, to keep up this uniform diffusion of action by diaphoretics. If this was neglected, little or nothing was often gained. The impression subsided, and the same train of morbid actions was again developed, and demanded the same means. The sudorific I commonly prescribed, was a powder composed of compound powder of ipecac., (Dover's powder) from four to six grains, with two or three of camphor every hour or two. Another prescription, more convenient and equally efficacious, was spts. nit. dulcis, saturated with camphor five parts, tinct. opii one part, in the dose of 40 drops every hour or two, in some warm vegetable infusion, the choice of which I generally left to the patient. After continuing this process eighteen or twenty-four hours, a laxative was usually administered, so mild as not to produce a powerful determination to the intestines, as this would suspend the sweating process, and tend to produce metastasis to the internal parts. For a cathartic I used oleum ricini; fol. sennæ and sulphat. magnes., or a combination of senna, manna and super tart. potass. The principal concurring cause of the disease, is irritating matter in the stomach and intestines. The gastric secretion and nervous influence on which digestion wholly depend, being interrupted, that process is suspended; hence every substance received into the stomach, readily runs into the acetous or putrefactive fermentation, as the nature of its constituents may be, and thus becomes a source of irritation. Moreover, substances are poured into the intestines, even those absorbed from the surface of the body. It therefore becomes necessary, daily to move the bowels gently, and with as little irritation as possible, for *ubi irritatio ibi fluxus*, and the skin must suffer a proportionate diminution of action and energy, for by fluxus we must understand a flow, not of the fluids only, but of the nervous power also.

If this sweating process did not effect a recess or remission of the symptoms in twenty-four hours, I always repeated the emetic and sudorific plan daily, or every second day; and this I was sometimes obliged to do six or eight times.

The use of emetics is so common, that almost any one feels competent to prescribe them, yet no medicines require nicer management to insure their success. Many physicians think they have done their whole duty when they have ordered a dose of *tartar emetic.* But an emetic should be so managed as to produce a universal effect. To this end it should operate severely. It should be accompanied with copious draughts of warm vegetable infusion, to keep up the action of the skin, which should be kept steadily warm by bedding. Towards the close of each paroxysm of vomiting, it should be alternated with warm draughts, containing spts. nit. dulc. and if the emesis threaten to proceed too far, a few drops of the tinct. opii may be added to each draught. If their operation be severe, inflammation of the stomach will be induced; to this organ will all the energies of the system be directed, capillary action will be suspended, and perspiration destroyed. The skin will indeed be bathed in cold moisture, differing materially from that relieving congenial sweat, which proceeds from increased capillary action. It is merely the oozing out of perspirable matter from exhausted capillary tubes, serving no other purpose but to exhaust. This collapsed state of the surface, so often attendant on sub-acute fevers, is frequently mistaken even by medical men for diaphoresis, and they tell you he perspires freely, without distinguishing a sweat from collapse, from a sweat from increased capillary action.

By persevering steadily but undeviatingly in this plan, the disturbance would generally decline, and subside materially about the fifth, sixth, or seventh day, sometimes not till the tenth or twelfth; we must then call in immediately the aid of our

Third indication, which was to support the powers of vitality, and enable them thereby to maintain their ascendency.

To fulfil this indication, I relied almost exclusively on two articles; carbonas ammoniæ, and oleum terebinthinæ, or common spirits of turpentine. The first was administered when, besides supporting the powers of life, it was necessary to assist diaphoresis: the last was used when that process was established, and an action concurring with the healthy, necessary only to be supported. It is unnecessary to state that the first was demanded earlier than the last. "It may in general be given at a much earlier stage of the disease than other remedies of this kind."* "In one respect the volatile alkali differs from every article of the class to which it is attached, and it would seem, from all other medicines. The peculiarity to which I allude is this, that the excitement it raises, approaches more nearly to that of healthy action."† To the verity of these remarks I can bear full testimony. Its utility could not be more strikingly evinced in any disease, than in the latter stage of our epidemic. It acted frequently like a charm, producing diaphoresis and healthy excitement. The spirit of turpentine is another article of this class, deserving more attention in the decline of fevers than it has received. Its effect on the general system is certainly concurrent with healthy action. It did not occur to me till towards the close of the epidemic. I used it in seven cases only myself, but have the report of its use in four others. It had a double operation; for being directed to be taken on sugar, it was applied directly to the fauces, and operated then as an efficacious counter-irritant, whilst its action on the system, except that of producing diaphoresis, was equally as pleasant as that of the carbonas ammoniæ. Instead of aggravating the irritative action, as one would *a priori* expect, it calmed the pulse, relieved wandering pains, and produced a more permanent action than the carb. ammon. Should the

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* Eberle's Therapeutics.

† Chapman's Therapeutics.

disease again return, I should place my chief reliance on this article, after the preparatory process just described.

When the action raised by the carbon. ammon. failed, and the morbid process again obtained, I had only to repeat the emetic, and again the carbon. ammon. would produce all its happy effects. This I have had several times to do. I gave it in doses of about four or five grains every hour or two, so as to keep the system constantly under its influence. The dose of spirits of turpentine, was from ten to thirty drops every hour or two, as the patient was less or more collapsed.

Another article that would seem to deserve a place in the class calculated to fulfil our third indication, is the Peruvian bark. This was also employed by other practitioners, and by myself a few times, and sometimes with a little seeming advantage. The only condition in which this article, or the sulphate of quinine, was beneficial, was in cases where gangrene had commenced about the fauces. Even in this condition I afterwards derived more decided and prompt relief from the oil of turpentine, given in doses of thirty drops every hour. Under its use one recovered, whose uvula had gangrened and sloughed off. The bark was not only useless, but in all protracted cases it was highly injurious; for the inflammatory diathesis, which was developed by the continuation of the disease, rendered it a concurring cause. I knew it prescribed for a young man in particular, for the gangrenous state of his palate, which was subdued. His debility induced his attendant to continue the bark at intervals of every few minutes. Under this treatment he continued to grow weaker, and after several weeks died a mere skeleton. This inflammatory diathesis seemed to be confined to the nervous texture, and principally to the great sympathetics. I have seen several of these cases, so peculiar and intractable, that their history would fill a volume. The pain was confined principally to the abdomen, and was aggravated by depletion or stimulation.

LOCAL APPLICATIONS.

The local external applications to the throat were fomentations, and the application of warm vegetables, as hops, poppy leaves, &c. These during the sweating process were very serviceable, especially when accompanied by the inhalation of steam into the fauces. The internal application found most beneficial was steam of any kind. The relief obtained from this, when any difficulty of breathing from spasms of the larynx was present, was very striking. In the more advanced stage, the pepper gargle, mentioned by Dr. Thomas for putrid sore-throat, was very useful. It consisted of cayenne pepper, vinegar, common salt. When cayenne pepper could not be obtained, the common red pepper (capsicum annuum) answered every purpose.

When the inflammation had passed from the fauces through to the face, different applications were used by physicians. I soon discovered, however, that the local depended on the general affection, and that nothing would conquer the former until the latter was subdued, which limited very much the benefit of any local application. After the general irritative action was moderated, I used the following liniment. Spts. turpentine, brandy each two parts, aqua ammonia one part, to be shaken previous to its application. Soft muslin cloths dipped in this and applied, had a very good effect. It operated as a counter-irritant, producing a new action, and permanently maintaining it. Its effect on erysipelas from vegetable poisons is frequently surprising.

Having now gone through what I conceive to be the regular form of the disease, I must bestow some attention on the anomalies or misplacements. These were generally of a more serious nature, for by them most of the deaths were induced. When any part of the body whatever was attacked, the most successful general treatment was, in the first stage, invariably the same as in the regular form already described. But when the stomach, intestines, or bladder, was the seat of location, the system after an emetic and the sweating process, was more prone to collapse, and death sometimes sud-

denly ensued, unless the *vis vitæ* was roused. For this purpose no one would give an ordinary emetic, yet on that very process peculiarly managed, the patient's life depended. For an emetic under such circumstances, I gave a powder every hour, of ipecac. twelve grains, opium one and a half or two grains, camphor three grains. These raised the sinking powers, and produced a warm and genial perspiration previous to emesis, which seldom succeeded before the third or fourth hour. The action thus raised, was then kept up by means already pointed out. In these locations, laxatives, though they could not be dispensed with, were for obvious reasons necessarily used with great caution.

Whether the affection of the abdominal vicera was primary, or the effect of metastasis, the disease was the same, with this difference only. In metastasis the system collapsed sooner, for the irritative stage was partly spent on the original location. The practice of giving emetics in gastritis and enteritis being so strictly prohibited by all pathological principles, I could not, at first, persuade myself to adopt them in affections of the abdominal viscera, notwithstanding their utility in other locations. So difficult is it to divest one's self of early impressions and scholastic dogmas. After having had my feelings shocked by the death of an amiable patient by intestinal location, treated on the plan of Armstrong, I determined on the future use of the emetic plan in such cases; and I must be permitted to say with uniform success. After two or three paroxysms of emesis, that sinking and distressing pain of the epigastric or intestinal region, vanished often to return no more. When it did recur, however, I repeated the same process as in the regular form of the disease, and obtained the same results.

When the other locations, such as the fingers, toes, glands, &c. were affected, they were attempted to be discussed by anodyne poultices of hops, poppy leaves, conium, &c.; and when the general disease terminated soon, this plan succeeded very well. But when the case was protracted six, eight, or ten days, they invariably suppurated and discharged

a great quantity of pus, the formation of which was accelerated by soft poultices.

Having detailed the plans of treatment found most successful, it now only remains for me to give a sketch of some of the most leading unsuccessful attempts at cure, for it is not to be presumed that a correct and uniform plan should have been at once adopted ; the first is,

VENESECTION.

How the remote causes of fevers, or how any agent should produce an adynamic state, or direct debility in a healthy yeoman, without any evacuation, is yet to be learned. But in this section of the country this is the fact. In no case which fell under my inspection had the pulse any tenseness or real resistance, but gave way on the least pressure, forming the gaseous pulse of Tully and Miner ; consequently, I never unsheathed the lancet. Others, however, did in a few cases, and a few only, for conviction soon followed. They perceived what they called a *high pulse*, and a *high pulse* necessarily suggested the necessity of a low pulse ; hence they bled, and often reduced it so low, that it never rose again. Thus fell a neighbouring physician of no inconsiderable experience and acquirements.* After venesection his pulse sunk, and with all the stimuli that could be employed, it never rose, and he expired on the fourth or fifth day. The diathesis of the atmosphere in this section of the country, or of peoples' constitutions, has been so modified ever since the prevalence of the *winter epidemic*, called *pneumonia typhoides*, that no fever has since occurred to me, demanding venesection. In that epidemic the lancet slew its hundreds. Many physicians presuming vascular action to be suppressed or weighed down by an over-load, determined to let the blood flow until the pulse should rise. The consequence was, as might have been expected, many died almost instantly. I knew an elderly lady die before the physician had got a mile from her.

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* Dr. Ira Patch.

I do not, however, like Tully and Miner, universally condemn the practice. In other places, and at other times, the diathesis of the atmosphere, or of peoples' constitutions, may be reversed, and the means imperiously demanded. But at present, in this section of the country, no man who has the use of his fingers and eyes need ever be deceived.

CALOMEL.

This has been such a favourite febrifuge ever since Dr. Chisholm arose in the might of his power, and hurled destruction amongst the fevers of Grenada, that it is not surprising it should have been adopted in this epidemic. Indeed, I was firmly persuaded that salivation, by producing a new and permanent action in the glands of the throat, and throughout the whole system, would supplant the disease. In this, however, I was soon undeceived, for the second case that occurred was doubly aggravated by its use. Nevertheless, I could not so soon abandon a favourite opinion; and it was not until I saw a complete salivation continue a week or more without the least amelioration of the local or general disease—the sore throat and sore mouth very neighbourly marching on together without the least interference. It was therefore evidently a concurring agent in the development of the disease—and this was the uniform testimony of all whose practice gave them an opportunity of testing its efficacy. Mercury is undoubtedly able to arrest the action of some fevers; but feeble indeed must be that febrile process which is capable of being supplanted by the specific effect of calomel.

Mercury not only failed to counteract the disease, but was actually a predisposing cause, thereby favouring its development in subjects who might otherwise have escaped. This effect occurred in three instances. They were all delicate females, and were taking mercury for chronic affections of the liver. The first occurred during the height of the epidemic. She was on the use of calomel, pulv. antim. and nit. potass. The second was on the use of the blue pill. They both had the distinctive characters of the disease, both generally and locally, for no other sore throat resembles this.

The third was taking the blue pill, and had the disease severely. Her throat and gastric affection alternated several times, and she recovered after having been in a hopeless state several days. They were all persons of choleric temperaments, and the last one remarkably so. The first two had been taking mercury only a few days, and the other several weeks.

BLISTERS.

It may indeed seem strange that I have made no mention of blisters; but their proper place is amongst the unsuccessful means. At first we all uniformly used them, and drew them from ear to ear across the neck, over the breast, &c.; but we all as uniformly abandoned their use about the same time without any understanding between us. They produced no good, not even in internal locations, but on the contrary, they rather aggravated the pain. The lady who died of the intestinal location under the Armstrong plan of treatment, was blistered over the whole abdomen after her calomel failed to answer my expectations. Other cases occurred similar to this, and under equally unfavourable circumstances, yet they all yielded to the emetic and sudorific treatment.

When we consider that these local affections are not phlegmonous, but erysipelatous inflammations, or more properly, erysipelatous actions, our surprise at their failure ceases. A lady was seized with the location in her finger. Her physician enveloped a part of it in an epispastic plaster, and just as far as the blister extended, the finger gangrened, and had to be removed. It was evident they were concurring agents. I found them of some service in protracted affections of the bladder, attended with strangury. They were applied to the loins, and across the upper part of the os sacrum. The idea that their application to the vicinity of the kidneys or bladder is apt to produce strangury, is purely chimerical. I as often apply them on those places as on any other, and I never saw strangury arise in a single instance. The worst strangury I ever witnessed arose from a blister across the scalp for an old injury of the head.

ART. VII. *A new theory of* CONCEPTION, *founded upon well known laws of nature, in accordance with which the principles of superfœtation are explained, and facts adduced to prove its repeated occurrence.* By JOHN STEARNS, M. D. of New-York, late President of the State Medical Society.

Read before the Physico-Medical Society of New-York.

EVERY thing relating to the reproduction of man is interesting and important. A few remarks upon this subject, in connexion with the exploded doctrine of superfœtation, will consitute the theme of this communication. Scarcely a doubt was entertained by the ancients, of the possibility of a second conception by an impregnated uterus. But although many cases have occurred in the history of medicine to fortify this doctrine, it has for a long time been considered as physically impossible. The perfect closure of the os uteri immediately after conception, which renders it impervious to the semen in a subsequent *coitus*, has been urged as an insuperable objection, and so conclusive was it considered, that scarcely an effort has since been made to revive the former opinion. A proof of the paramount influence of theory over facts. Convinced however by some strong cases, of the reality of superfœtation, Dr. Dewees attempted to prove its possible occurrence, and to obviate all existing difficulties and objections, by assuming a different theory of conception. He considers the seminal fluid to be absorbed in the vagina, and conveyed thence directly to the ovarium, by appropriate vessels denominated *seminal absorbents*. In confirmation of this opinion, he cites several cases in which the vagina was so obstructed, or the parts so deformed, as to prevent the transmission of the semen into the cavity of the uterus; and that even in these and other similar cases, conception had actually taken place.

If then *coitus* occur while a fœtus occupies the uterus, and the absorbed semen meet with an ovum capable of being

influenced by it, that ovum will be impregnated, the ordinary changes will take place in the ovarium, the ovum will escape into the Fallopian tube, and thence be conveyed to the uterus, where it will meet a feeble resistance from the membranes which already line the uterus: this resistance will soon be overcome, and the new ovum will effect a lodgement by the side of the other, with its own peculiar membranes, water and placenta. This summary exhibits a general view of the theory of superfœtation upon the principle of absorption. But as it entirely rests upon the assumed basis of undiscovered vessels, I deem its admission incompatible with the maxims of sound philosophy. For the same reason I am compelled to reject the theory of the absorption of the semen by the veins, its mixture with the circulating mass, and subsequent deposition upon the ovarium.

After a careful review of all the systems projected for the reproduction of man, no one appears to be so perfectly consonant to reason, to the simple operations of nature, and to accurate observation, as the one which was adopted by the ancients, and sanctioned by some of the most distinguished moderns. Uninfluenced by preconceived theory, every one would naturally consider the uterus as designed for the immediate reception of the semen and ovum, and the vagina as the plain and direct path for the course of the former, and the Fallopian tube for the latter; nor would they ever suspect that the semen was to be diverted from this natural passage into the devious course of the circulation, or transmitted by any extraordinary process, through undiscovered vessels directly to the ovarium. Such complicated explanations are at variance with the uniform simplicity of nature's laws, and that sound maxim which interdicts the use of more causes to explain a phenomenon than are actually necessary. That conception cannot take place in cases of obstructed vagina, or of other deformities which prevent the perfect apposition of the penis and os uteri, except upon the principle of absorption, is an assumption entirely gratuitous. Although conception may be rendered more certain by such apposition, I do by no

means consider it indispensably necessary, for reasons now to be explained, and which I trust will be found exempt from those difficulties, which gave origin to the theories of absorption.

The fundamental principles of conception, may be considered as contained in the following propositions.

1st. The semen passes directly from the vagina into the cavity of the uterus.

2d. The female ovum passes directly from the ovarium through the Fallopian tube into the same cavity.

3d. The ovum receives its first impregnation in the uterus, and not in the ovarium.

Hippocrates, Galen, and most of the ancients, and Haller, Richerand, Blumenbach, and other distinguished moderns, are among the advocates of the first proposition. Richerand observes, that conception is most certain immediately after menstruation, as the os uteri then dilates more easily to receive the male semen. But this proposition acquires the strongest confirmation, from the repeated discovery of semen in the uterus, immediately after *coitus*.

Ruysch also discovered it in the Fallopian tube: and although some of the advocates for absorption think he was deceived, we have more reason to believe the demonstration of this accurate and indefatigable anatomist, than the mere assertions of those who have a favourite theory to sustain. As the truth of the first proposition rests upon the basis of actual demonstration, the highest of all testimony, and is clearly elucidated by subsequent explanations, it is needless to adduce weaker evidence, or the multiplication of other proof.

Although the direct passage of the ovum through the Fallopian tube, and its first impregnation in the uterus, are not susceptible of equal demonstration with the first proposition, we may however confidently appeal to the ancients, to many distinguished physiologists of later times, and to the clear and satisfactory explanation of conception upon this principle, for the truth and consistency of the two last propositions.

Blumenbach's theory of *nisus formativus*, is founded upon the same hypothesis. The occasional discovery of male semen, and of a fœtus in the Fallopian tube or extra-uterine, does not invalidate this opinion, but may be considered as entirely accidental, unnatural, and dependent on the operation of the same power which naturally impels the passage of the semen and ovum into the cavity of the uterus, and which I shall now proceed to explain.

It has already been remarked, that an apposite union of the penis and os uteri, is not indispensably necessary to ensure conception.

If then a power can be demonstrated which exerts a synchronous impulse to the male semen and female ovum, by which both are equally impelled from their respective points of departure, the former from the vagina through the os uteri, and the latter from the ovarium through the Fallopian tube, till both simultaneously arrive at the fundus uteri for the purpose of conception, I trust that the usual objections of deformity, obstructed vagina, and inaptitude of parts, will be perfectly obviated.

In its natural condition the uterus has no sensible cavity, its parietes being every where in close contact. But in *coitu* the parietes dilate and expand, thereby producing a cavity proportioned to the violence of the orgasm, and a vacuum proportioned to the extent of that cavity. This vacuum will be most perfect at the height of the orgasm, and its greatest power will then be exerted to attract the semen from its location in the vagina, to its destination in the uterus. This vacuum will be continued by the perfect closure of the contracted vagina, till the process is sufficiently matured, when the succeeding relaxation will admit the external air, to give additional impetus to any portion that may be impeded by intervening obstruction. If, therefore, any preternatural obstruction, deformity, or inaptitude of parts prevent the approximation of organs, by which the semen is deposited in the vagina, remote from the os uteri, and the excitement be sufficient to produce the orgasm and expansion, the opera-

tion of this principle will impel the semen into the uterus, and produce conception. The same cause will also procure the transmission of the seminal fluid through the aperture, in what has been denominated an imperforated hymen, which admits the usual passage of the menstrual discharge. It must, however, be remarked, that in all these cases, the os uteri, by the same convulsive orgasm, descends into the vagina eager to meet and absorb the seminal fluid: and I have no doubt that where obstructions exist, in cases of successful conception, a sufficient opening for its transmission, may always be discovered.

That the same principle of attraction impels the ovum from the ovarium, through the Fallopian tubes to the uterus, I infer from the following considerations.

The Fallopian tubes are equally and simultaneously excited with the uterus. Their sides expand, become rigid, and their cavities are enlarged. Their fimbriated extremities dilate and closely embrace the ovaria, thereby constituting an uninterrupted vacuum from the os uteri to the ovum, which is thus attracted from its location in the ovarium, and impelled by the continued operation of this principle, through the tube to its destination in the uterus, where it meets with and receives its first impregnation from the seminal fluid.

That the arrival of the semen and ovum at their point of union in the uterus is simultaneous, is probable from the equal distance of their respective points of departure from the fundus uteri: the distance of the latter from the ovarium and os uteri being precisely the same.

As conception by this theory requires a perfect closure of the vagina, a suitable orgasm, and a simultaneous meeting of the semen and ovum in the uterus, it must be obvious that where either fails, sterility must ensue. The cause of this failure may be attributed to constitutional apathy, to disease, or to an unnatural abuse of the organs by which the vagina will become relaxed, or the uterus unsusceptible of the necessary excitement.

I trust it is unnecessary to quote authorities to prove the changes which I have described, and which are familiarly known to every physiologist. I cannot, however, refrain from extracting the following remarks from Blumenbach in corroboration of the preceding theory.

"The uterus becoming turgid by a species of inflammatory orgasm, drinks in the seminal fluid, and at the same time effects the discharge of a fluid peculiar to itself. The Fallapian tubes at the same time become rigid, embrace the ovaria with their fimbriated extremities, which thus burst the ovum, and absorb its albuminoid fluid, which is then conveyed by the tubes to the cavity of the uterus. Women, who are indifferent to this stage of the orgasm, have often perceived these changes to take place in themselves, and have thus been made certain of the time of their conception."

Richerand also says, "the uterus attracts the semen by a real aspiration."

This "drinking in of the seminal fluid," according to Blumenbach, or, "its attraction by a real aspiration," according to Richerand, can be explained upon no principle but the one which I have already advanced. And although many writers ascribe to the uterus precisely the same operation, I have never seen any satisfactory explanation of the power which impels the seminal fluid into the uterus.

If the preceding remarks justify the conclusion that the semen and ovum enter directly into the uterus, we must necessarily infer that the latter receives its first impregnation in that cavity, and not in the ovarium. This opinion acquires confirmation from some distinguished writers of antiquity, and also from its analogy to that simplicity which uniformly pervades the works of nature. The power which I have assumed to give impulse to the semen and ovum, is precisely the same that impels the air into the lungs, and the blood into the ventricles of the heart, and why not the former into the uterus? These positions are plain, simple, perfectly intelligible, and exempt from mystery or intricacy of reasoning, and obviously conformable to the general laws

and designs of nature, and if impartially investigated, will be found to have strong claims to the sanction of physiologists.

I cannot consider the discovery of the seminal fluid, or a fœtus in the tube, or in the cavity of the abdomen, as sufficient to establish the hypothesis that they have acquired this location by meeting some accident or impediment on their return from the ovarium. The more probable opinion is, that in its passage from the ovarium, the ovum has been retarded by some deficiency in the impellent power, or by some obstruction in the tube, while the semen has been propelled by more than ordinary force beyond its destination in the uterus, into the dilated mouth of the Fallopian tube, where it has met and impregnated the ovum.

All such occurrences are contingent aberrations of nature, and as unfit to form the basis of a theory, as to attempt to prove that club feet or four legs are natural to children.

From this summary view of conception, it will be perceived that the following changes are deemed indispensably requisite for its success.

1st. An excitement must be produced sufficient to expand and dilate the uterine organs.

2d. The vagina must be perfectly closed during the momentary dilatation of the os uteri for the transmission of the seminal fluid.

3d. A perfect closure of the os uteri must take place previous to its removal from the vagina.

4th. If the closure of the vagina be removed before conception be completed, it must be continued in the os uteri till the semen has reached its ultimate destination, impregnated the ovum, and the latter has acquired a firm attachment to the uterus.

Although the os uteri often continues closed to a late period of gestation, yet it is not absolutely necessary after the process of conception has been completed, and we consequently find cases in which it has been dilated without any injurious effects, and even menstruation regularly performed.

After this preliminary view of conception, we are prepared

to resume the subject of superfœtation: and although under ordinary circumstances, I cannot believe in the possibility of its occurrence, yet so strong is the evidence adduced in its support, that scarcely a doubt remains that it has sometimes taken place. Such cases are indeed extraordinary, and can be explained only on the principle of a double uterus, or a longitudinal septum that divides the uterus into two distinct cavities. That such instances do sometimes occur is abundantly proved by the records of medicine, one of which is described by Mr. Pole in the 4th volume of the memoirs of the Medical Society of London. "A septum of considerable thickness," says Mr. Pole, "ran between the organs which formed two distinct and complete vaginæ, as well as two uterine cavities." Dr. Tiedman communicates a similar case, the preparation of which is in the Museum of Heidlebergh; he says, "the vagina and uterus were both double, the latter of which was distended from impregnation. The left uterus was in the condition as it usually is after delivery, the person from whom the preparation was taken having died on the nineteenth day after parturition. The right uterus had all the appearances which those who have never borne children usually possess." In the same communication he alludes to two similar cases which he had met with on former occasions.

According to the preceding theory of conception, it must be obvious that although one of those cavities in a double uterus be occupied with a fœtus, yet the orgasm may be excited, and a vacuum produced in the other sufficient for all the purposes of a second conception, analagous to what takes place in brutes. Their uteri are divided into different cells. The ovum does not pass into the uterus, nor does the os uteri close so soon as in the human subject. A bitch will consequently admit a variety of dogs while she is in *season*, and will bring forth puppies of each different species. Each cell becomes the receptacle of its appropriate conception, and similar to what occurs in the human uterus, is probably closed at the same instant for the exclusion of the external air, and the preservation of the vacuum within. Thus each

cell performs separately all the functions of a complete uterus, till conception has been perfected in each, and the os uteri finally closed upon the whole.

Dr. Dewees observes in explaining his theory of conception, that superfœtation is not only probable, but that it is surprising it does not more frequently take place. Upon his principles I perfectly concur in his opinion, that it ought to be a common occurrence, but on the principles which I have advanced, it must be as rare as the existence of a double uterus.

After this exposition of superfœtation, I shall refer to a few instances to prove that it has actually taken place; and should it hereafter occur to the observation of any practitioner, it would be very desirable to ascertain by dissection after the death of the mother, the true condition of her uterus.

A variety of cases of superfœtation may be found in the writings of Harvey, and in the records of ancient medicine; but the cases recorded by Dr. Dewees in the first volume of the Philadelphia Medical Museum, which occurred in his own practice, are related with such minute and extraordinary co-incidents, as scarcely to admit of a doubt that the two fœtuses were the offspring of two distinct conceptions, and of two different fathers.

This opinion is still more strongly fortified by the circumstances of a case stated in the twenty-third volume of the New-York Medical Repository by Dr. Norton. The prominent facts are, that a coloured single woman was delivered of a fœtus with the features, character, and colour of a negro, apparently in the eighth month of pregnancy, aud in a few hours after of another fœtus with the regular features, character, and colour of a white child, apparently in the fourth month of pregnancy, both of which exhibited signs of life. As I can attest from personal observation to the accuracy of this statement, I have no doubt from all the circumstances of the case, that this was a decided case of superfœtation.

Art. VIII. *A Case of* Exostosis *of the* Os Ischium *impeding delivery.* By Charles Drake, M. D. Physician of the Bellevue Establishment.

In volume first, page 57 of this Journal, is recorded a case of pelvic tumour obstructing parturition, which was opened, and so far diminished in size by the removal of fleshy and bony substances mixed with blood, as to have permitted the favourable expulsion of the child *per vias naturales*, had the other circumstances of the case rendered such an event feasible. The subject of this case in her succeeding lying-in came under my care, and its unfavourable termination gave me an opportunity of ascertaining by autopsic inspection the nature of the impediment to delivery. It is therefore proper that I should give publicity to the facts as they came under my view, in order to correct the misapprehensions that were formed of the nature of the preceding pregnancy; namely, that it was a twin conception, in which one was extra-uterine, forming a vaginal tumour, whose remains it was necessary to extract before the uterine fœtus could be brought away. Dr. Francis, in his edition of Dr. Denman's Introduction to Midwifery, page 354, doubtless refers to this case, and gives its true character, but without attempting to correct the error of his friend and colleague, or even, which is very surprising, mentioning its having been the subject of a former record in a journal he aided in conducting. The case would have been given to the public before, had I not been restrained by circumstances which I could not control; but as those circumstances have now ceased, and the sequel of the case is interesting on many accounts, I communicate it for public record.

The woman fell into labour about noon, but the house-physician was unable to attend upon her until 4 o'clock P. M., when he found her enduring powerful and rapid labour pains, the waters discharged, and on examination per vaginam, the head considerably advanced in the pelvis, with the hairy scalp more tumid and protruding than ordinary. After

waiting at the bed-side a considerable time, he made a second examination, and to his surprise, although the pains had been strong and frequent, he found that the head had made little or no advance, but the soft parts were evidently becoming more and more detached from the bones, and assuming a purse-like form. The woman now gave him to understand that her preceding delivery had been attended with untoward circumstances, which he recollected to have read, and on referring to the case, and comparing the recorded facts with the present difficulties, he was led to conclude that they constituted in the present instance a case of impaction, merely arising probably from some straitening of the passage, proceeding from cicatrization of the wound made at the previous delivery, and which would finally be overcome by the pains, still powerful and rapid; at any rate he could not conclude from the previous history of the case, that there existed any insuperable impediment to the transit of the child through the pelvic cavity, and he determined to wait patiently the natural efforts of parturition. Finding at 11 o'clock P. M. the woman beginning to become exhausted, and the pains remitting in force and frequency, he gave her a full dose of the infusion of spurred rye, which in fifteen or twenty minutes renewed the pains with redoubled violence. They continued with fearful energy for a few minutes, when they suddenly and entirely left her, and she fell into a state of exhaustion, attended with restlessness and anguish, referred to the gastric region, which state continued during the remainder of the night. On the cessation of the pains, an examination discovered the head to have retreated considerably, and a firm unyielding tumour occupying the right side of the pelvic cavity, sufficiently hard to form an effectual barrier to the passage of the head. Early in the morning I was sent for to advise in the case, and at 8 o'clock I found her without the least indication of being in labour, but in a state of perfect collapse with the pulse extremely small, and running at the rate of about 150, the skin cool, and covered with a viscid perspiration, hiccup, continual jactitation, complaint of deadly

languor and indescribable distress referred to the gastric region, attended with frequent gulping and throwing from the stomach a glairy fluid containing much black flaky matter resembling tinder. On examining per vaginam, I perceived the head lying unlocked above the tumour, easily admitting of being moved or pushed up. There was now little doubt that the uterus had given way, and the child forced into the abdominal cavity; nevertheless the woman's present condition forbade the adoption of any means to relieve her, without the probability of adding to her present distress, and perhaps accelerating the fatal moment. She was accordingly resigned to the soothing attentions of her friends. She died at 2 o'clock the succeeding morning, twenty-seven hours from the time the rupture of the uterus occurred.

At 11 o'clock, nine hours after death, the body was examined in presence of my friends Drs. Manley and Anderson. On laying aside the integuments of the abdomen, the whole of the child, except the head, was found extended upon the abdominal viscera. The rent in the uterus was in its anterior part, and extended from its neck nearly to the fundus. There was no trace of previous disease in any of the internal organs of generation, if we except an extremely small fistula communicating with the tumour, and discharging fœtid matter into the vagina. The shape of the tumour was nearly semiglobular, with an extensive base; its size was not ascertained by measurement, but I should say its diameter at the base was rather more than two inches, and nearly two inches in its highest elevation. On cutting into it, it proved to be an exostosis from the inner side of the right ischium, just above the tuber and posterior to the foramen ovale. It was composed of thin laminæ in a state of caries, and contained cartilaginous, bloody, and grumous substances.

Art. IX. *Account of a Case of injury of the* knee-joint. By William F. Seaman, M. D. of New-York.

R. D. a stevedore, aged forty-five years, while engaged on the 22d of 2d month, in unloading one of the Liverpool packets, was struck on the left shoulder by the iron hoisting wheel employed to raise the cargo from the hold, the fastening of which gave way during its use. It was computed to weigh about 50lbs. and fell from the height of about twenty-three feet, upon the shoulder a little behind the clavicle: it forced him down upon the deck in such a manner, that his left knee was violently driven against the side of the hatchway, and the wheel sliding at the same time from his body, was received on the thigh over the external condyle of the os femoris, where it produced a considerable contusion and a slight wound.

He was immediately conveyed home, where I first saw him about two hours after the accident; his leg was extended, and great tumefaction had supervened, so that it was impossible to flex the knee in order to make the necessary examinations of the state of the limb, without occasioning the most excruciating pain. It was evident, however, although some deformity was present, that this was owing to the irregularity of the tumefaction, that the joint was not dislocated, and that if fracture existed, the bones were in their natural situation.

His scapula was fractured by the blow, in a direction downwards and forwards through the spine and body of the bone. This was readily reduced, and maintained in its natural position by a compress secured by the figure of eight bandage, and by attaching the hand and arm to the chest, to render it immoveable by means of a roller.

He was freely bled from the arm, and ordered a dose of the sulphate of magnesia, and the joint enveloped in cloths wet with spirituous acetous lotion.

On the 23d, the tumefaction had increased considerably, with the pain, fever, and other symptoms of inflammation. He was again freely bled, and the purgative repeated.

On the 24th, his pulse was considerably reduced, but his fever still continued. He was ordered small doses of the nitrate of potass, with tartrite of antimony.

On the 25th continued the remedies.

On the 26th, his nights became restless, but little fever and no sleep. Continued the powders with half a grain of opium to each dose, and an anodyne at bed time.

On the 27th and 28th, the symptoms much the same; the powder, though continued, produced no sleep; doubled the quantity of opium.

On the 1st and 2d of 3d month, still no sleep; bowels regular, and febrile excitement but little; the limb, however, much swelled, and increasing in size both upwards and downwards. Applied a bread and milk poultice to the knee, enveloping the whole extent of the tumefaction; continued the opium with the addition of two grains of camphor to each dose.

On the 3d continued the remedies.

On the 4th, the limb was nearly double the size of the sound one, the pain somewhat diminished, and a sensation of deep fluctuation in the ham. A free incision was made in this situation with a lancet, and a large quantity of pus discharged. He was now ordered the bark in substance, and as the opium and camphor produced no sleep, although given to the extent of two grains of the former, and four of the latter every two hours, and doubled at bed time, it was discontinued for the tincture of hops.

On the 5th, the discharge was profuse, bathing the whole limb in ill digested pus or sanies; the cavity of the abscess occupied the whole extent of the ham, and extended upwards and downwards in the interstices of the muscles of the thigh and leg, but did not communicate with the cavity of the joint. Small vesicles appeared on the ham and knee, the patient's countenance became wild and staring, his pulse feeble, and

mind delirious. The bark was continued with a liberal use of wine and the tinct. of hops; his poultices were smeared over with yest, and frequently repeated. This plan was pursued vigorously, with little variation from the 5th to the 15th, during which time the vesicles bursted, and sloughs formed which came away without difficulty, leaving ulcers of a healthy appearance. The quantity of matter discharged from the abscess had also daily diminished, but the wakefulness continuing, the tinct. of hops was discontinued for the trial of the extract of hyoscyamus, which was continued to the 20th with no better success, when he again returned to the opium, combined with small doses of the tartrate of antimony as a febrifuge. These, together with a blister, removed a slight inflammation of the chest, with which he was seized about this time.

The limb was now much reduced in size, the pus discharged from the ulcers of a better quality, and the sore began to granulate; his appetite improved, and sleep returned. On the 20th he took a cathartic of aloes, calomel and jalap, to remove costiveness and a slight feverish disposition that occurred; and on the 27th, the effervescing draught of Riverius for the same purpose.

On the 1st of 4th month he was perfectly free from fever, his strength rapidly returned, and his ulcers healed kindly, under the use of the calamine cerate.

The fracture of the scapula united without difficulty or deformity in the usual period, and in the beginning of 5th month, he was perfectly restored to health. In attempting to walk, however, he was sensible of a grating noise in the affected knee: upon examination it was evident that a considerable portion of the outer condyle of the os femoris had been broken off by the blow within the joint, in a direction obliquely downwards and inwards, and had never reunited. It left no other inconvenience than a difficulty in flexing and extending the leg in going up and down stairs, or similar occasions requiring extensive motion. His walking on a

level was free from pain and natural, and the joint in no respect deformed.

From the nature of the foregoing case, it is evident that very considerable injury may happen to the knee-joint, and not require the amputation of the limb; and that a large portion of bone constituting a part of a joint, may be fractured from the body of it, not reunite, and remain in its cavity without producing a destruction of its functions.

It also adds one more case to those recorded by Astley Cooper, tending to prove that fractures of the extremities of bones within the capsular ligaments of the joints, do not unite by bony union, nor in this case, as in that in the cavity of the hip joint, does any decided union take place. It also contributes in a measure to controvert the theory of this celebrated surgeon, that the cause of non-union in these cases is attributable to "the want of proper apposition, or to the absence of continued pressure," as in this case the bones suffered no displacement, and the natural pressure was constantly maintained by the contraction of the surrounding muscles. It seems much more probable, that the want of union in these cases is owing rather to the constant immersion of the fractured extremities in the synovial fluid of the joint, than to any other causes hitherto assigned for it. The fact of the increased quantity of this fluid secreted into the joint immediately after an injury of this kind, so great in some cases as to prevent the perfect coaptation of the fractured extremities, as well as the circumstance that bones fractured in the shaft do not unite in the cavity of an abscess that continually bathes them in pus, strengthens the conclusion that this is the principal impediment to ossiffic, and indeed to every other union. Whether in these cases the evacuation of the synovia of the joint would not favour a union, must be left to future observation to determine; if so, our hypothesis becomes established as a matter of fact, and it would remain to consider how far its evacuation under certain circumstances might advantageously become an object of the chirurgic art.

Art. X. *Account of a Case of* Conversion of Disease. By John W. Gloninger, M. D. of Lebanon, Pennsylvania.

On the 12th of April last, I was requested to visit Philip Call, who had a few days before moved to this place from Hagerstown, in the state of Maryland, where he as well as most of his family had been much afflicted with the intermitting fever. From the statement he gave of his case, it appeared that he had a quotidian intermittent, which in the course of a fortnight, assumed a tertian type, with which he was regularly attacked for the last eleven months, during which time he had used, agreeably to the direction of the physician that had attended him, the most approved remedies without deriving much benefit from any of them. As he was complaining of pain in the left hypochondriac region, and as there evidently was an enlargement of the spleen, I conceived that a cure could not be achieved, unless he would undergo a mercurial course, to which he readily consented. I accordingly gave him a pill containing a grain of sub. mur. hydrarg. every morning and evening. In about twelve days a ptyalism was produced, when the fever disappeared, but instead of it, and precisely at the same hour, an *epistaxis* took place. Having returns regularly of the hæmorrhage, and having used ineffectually the usual remedies for the purpose of arresting it, I finally concluded to establish a purulent discharge by inserting a seton in his arm, and gave him sulphas cupri in nauseating doses, which happily had the desired effect, inasmuch as the epistaxis which had before been profuse, and occasionally alarmingly so, now gradually diminished, and in about six days entirely ceased ; since then his health has daily improved, and now is perfectly re-established. As the cessation of the hæmorrhage might be imputed to the nauseating effects of the sulphas cupri, it may be necessary to remark, that notwithstanding it had been used for some time before the seton was resorted to, the

epistaxis nevertheless continued, and the blisters which had been applied to the extremities and dressed with unguentum sabinæ, had not the effect that had been anticipated from their use, previously to their application. The quantity of blood lost upon each return of the hæmorrhage, and he had a visitation of it for twenty-four days, may on an average safely be computed at eight ounces. The prostration of strength was so great from the loss of blood, that had the epistaxis not been arrested at the time it was, several more recurrences of it must inevitably have proved fatal.

interesting and anxious situation which can occur to her in life, is equally culpable and cruel. Whether the premises assumed by our author with regard to the more frequent occurrence of unnatural deviations than is admitted by other authors be correct or not, the practical inference drawn from them is equally sound, and deserves especial attention.

"It is these aberrations that emphatically declare midwifery to be a science—for it has and must have its own principles; principles that must not only be known in the abstract, but constantly employed; and it is the happy application of the fundamental rules of this science, that makes one practitioner superior to another." p. 10.

The whole of this introduction is well written, and worthy of careful perusal. Towards the close Dr. Dewees modestly acknowledges his obligations to Baudelocque, for the better part of his knowledge of midwifery. He especially recommends the study of this great practitioner's work, to all who would perfect themselves in the science; and the recommendation, we are confident, will be seconded by every one conversant with his writings.

The first, second, and third chapters, are devoted to the anatomical description of the bones of the pelvis, the head of the child, and the genital organs. These we must pass over, with the exception of the section treating of the deformities of the pelvis.

Deformities of the pelvis consist, according to our author, either in an excess of size in the diameters of this cavity, or in a defect of them. The obstacles presented by the first, are surmountable by common means. They are well known. The second is more common, and also more serious in its consequences. The more frequent causes are rachitis in infancy, aud malacosteon at a more advanced age. The effects of these diseases vary considerably, the pelvis being sometimes more diminished, at other times less. The boundary affixed to the degree of deviation requisite to render labour impracticable, is three inches in the antero-posterior diameter of the superior strait. There are, however, some

remarkable cases of children having been born alive, when there have been but two inches and three quarters from the pubes to the sacrum. These are to be considered exceptions to the rule.

In fixing the above limit to three inches, Dr. Dewees expressly states, that he has availed himself of the experience of European accoucheurs, because he believes that the collected experience of American practitioners would not have been sufficient to the formation of a correct conclusion on the subject. The cause of this is a singular one, and merits attention. It is the extremely rare occurrence of deformity of the pelvis in this country. In proof of this, Dr. Dewees alleges that it has never been encountered by some practitioners of pretty extensive practice, and by himself only three times in the course of a long and very ample experience.

In the examination of the pelvis, our author does not approve of Contouli's pelvimeter, but following his great master Baudelocque, recommends the caliper and also the finger.

Chapter 2d, treats of the child's head, and details several very judicious rules for ascertaining its situation.

Chapter 3d, treats of the genital organs, and 4th, of the menses.

The menstrual fluid, is believed by our author to be a secretion, for the following reasons :

"Independently of considerations derived from the structure and diseases of the uterus, of the menses being the result of a secretory process, we are to regard the appearances of the discharged fluid itself, as confirmatory of the suggestion. This discharge must be either a portion of the common mass of blood as it circulates in the system, or it must have undergone some change during its separation from the uterus—if the former, it should exhibit the appearances of blood detracted from any other part of the body by opening a vessel for the purpose; but this it does not do; if the latter, it is probable that it has been eliminated by that process termed secretion. This opinion is farther strengthened by the following considerations of the physical properties of the fluid itself: 1st. Its colour is between the arterial and venal blood, being less brilliant than the former, and more florid than the latter: 2d. It never separates into parts; blood drawn or evacuated from any other part of a healthy body, does separate, in a short time after, into its principal component parts: 3d. It never coagulates, though kept

for years; while other blood, when free from disease, quickly does this when exposed to the influence of the air: 4th. Its odour is remarkably distinct from that of the circulating mass; and is less disposed to putrefaction." p. 50–1.

While on this subject, it gives us pleasure to refer our readers to the very able and ingenious views of Dr. Manley, promulgated in his essay on menstruation, which was published in our thirteenth number. They have deservedly attracted the attention of the foreign journals.

Dr. Dewees next considers the several efficient causes which have been assigned, by the ingenuity of philosophers, for this peculiar habit of the human female, viz. lunar influence, general plethora, and lastly, the topical congestion of Dr. Cullen, "by whom it was taught with all the force of eloquence, and all the charms of fancy." All these are rejected as unsatisfactory, and it is left for some future Hunter or Haller to advance a more satisfactory explanation.

We quote the following paragraph on account of the refined ingenuity of the idea it expresses.

"It may be asked, why are the menses in the human female coloured? This may be difficult to answer satisfactorily; but we are of opinion that one of its uses is, to advertise the female when this discharge is arrested, that impregnation has taken place, and thus enable her to make the necessary arrangements for the period of becoming a mother. Had this discharge not been coloured, it might readily be mistaken for an increase of the secretion, natural to the uterus and vagina—but being coloured, this error could not well take place." p. 61.

The difficult and mysterious subject of conception next attracts our attention. Notwithstanding all the ingenuity which has been employed on this subject, from the time of Aristotle down to the present day, all that we know decidedly about it may be summed up in the words of the psalmist, that man is wonderfully made. Our author seems disposed to adopt the conjecture, that absorbents, especially intended for the purpose, convey the semen to the ovaria, admitting however, that it wants confirmation. In the present number of this Journal, our readers will find a new hypothesis advanced

by Dr. Stearns, late president of the State Medical Society. It is supported by much ingenious reasoning, and deserves respectful consideration from those whose curiosity leads them to indulge in speculations of this kind.

The changes produced by conception, the formation of the membranes, the placenta, the fœtal circulation, and lastly, the changes effected in the uterus by impregnation, are next treated of, and deserve the attentive perusal of the obstetrical student. We cannot in this place necessarily do more than simply allude to them.

On the action and displacement of the uterus, our author has furnished several able and satisfactory sections. His views on these subjects have, however, been so long before the public, that it were a work of supererogation to dwell upon them here. We cannot, however, omit quoting the very explicit rules he has laid down for the treatment of retroverted uterus.

"Having decided upon the propriety and necessity of giving aid to the suffering woman, we shall next give directions for the best mode of doing this. We must first consider what forces are operating to prevent the restoration of the fundus, before we describe how they are to be overcome; they will be found to be: 1st. A distended bladder. 2d. An impacted rectum, and, most probably, a loaded colon at its sigmoid flexure. 3d. The counteracting efforts of the woman herself. 4th. The too great bulk of the uterus.

"The first thing to be accomplished is, emptying the bladder by the catheter; in this, it is said, we cannot always succeed; we have never met with such a case; and Mr. Burns declares the same thing, and even goes farther—he says he does not believe it can occur—it must, therefore, be very rare. Dr. Denman has some very useful remarks upon this subject, which we would recommend to be studied—he advises the employment of the flexible male catheter, in which we heartily concur; he also cautions against any attempt to display dexterity, by the quick introduction of this instrument, and recommends the slow and cautious use of it—he also proposes pressure upon the abdomen, to promote the discharge of the urine; we may, however, add, that not only the introduction of the catheter should be slow, but the drawing off the water should also be so—we are certain we once saw serious mischief arise from inattention to this direction.

"To overcome the second difficulty, injections should be thrown up the rectum if practicable; but which, it must be confessed, is sometimes impossible—we can succeed, however, with the elastic gum catheter of a large size, when the common means might fail; the injection should consist simply of salt and water, in the proportion of a table spoonful to a pint. A few hours before we commence the operation, small and repeated doses of the sulphate of magnesia may be given, provided the stomach is not distressed by vomiting or severe nausea.

"The third difficulty which may oppose is, the violent and involuntary efforts to bear down, to which the woman is excited, by the presence of the hand within the vagina—this is decidedly the greatest trouble we meet with in ordinary cases—for we may be foiled in our attempts at reposition, though the emptying of the bladder and rectum should not have been found troublesome. To overcome this opposition, experience has repeatedly taught us the efficacy of bleeding to, or near to fainting.

"When we have determined upon the bleeding, we should be prepared beforehand, to take advantage of the deliquium, as its effects are but transitory—the bed should be prepared in such manner, as will allow the patient to lie upon her back, with the perinæum free over the edge of the bedstead, and her shoulders a little depressed—some protection should be placed between the back of the woman and edge of the bedstead, that she may receive no injury from its hardness—the parts should be well lubricated by hog's lard or oil—a chair should be placed for each foot to rest upon, and these supported by two by-standers.

"When every thing is in readiness, the arm should be tied up (the patient standing near the bed); a large orifice should be made, and blood drawn until faintness is induced—when this happens, the arm must be secured, and the woman placed as just directed; the hand, after being well lubricated, should be passed into the vagina, in a state of supination; the fingers retracted in such a manner, as to form a straight line at their extremities; they must then be gently pressed against the base as it were of the tumour that is found within the vagina, so as to move it backwards and upwards along the hollow of the sacrum, until the mass shall reach above the projection of this bone; when thus far, the hand may be withdrawn; and a pessary be introduced of a proper size: the woman must remain quietly in bed for three or four days; the urine for this period should be drawn off as may be required, and the fæces evacuated by injections.

"The last of our embarrassments arises from the size of the uterus being equal to, or greater than the opening of the superior strait; this will be confessed to be one of much moment and interest—yet, we trust, is not beyond remedy; we believe that the plan just suggested, might succeed even here; but we confess it wants the test of experience. It should upon every consideration be tried, before severer means are adopted; should it fail, we loose nothing. But suppose it fail, what is then to be done? Three modes of operating present themselves in this dilemma.

"First, to confide entirely in the resources of nature, as recommended by Dr. Merriman.

"Second, to attempt provoking of abortion by rupturing the membranes through the os tincæ.

"Third, to puncture the uterus through the rectum, as advised by Dr. Hunter, or through the vagina, as practised by M. Jourel." p. 88, 9, 90, 1.

The third mode is approved by our author.

Chapter VIII. *Of the signs of Pregnancy.* This is a delicate subject, and frequently involves important discussion in medico-legal questions. Common as pregnancy is in occurrence, it is somewhat strange that it should present no one symptom or feature by which it can be invariably recognised, to the full satisfaction of the rigid examiner. That such is the case, the highest authorities in science warrant us in asserting; and the position cannot be too strongly impressed on the mind of every physician, who is liable to be called upon in a court of justice, to deliver his opinion in cases involving the loss of property, character, and even life.

The first and most usual symptom of pregnancy, is the suppression of the menstrual discharge. A variety of other causes, as cold, chronic diseases of the viscera, or depressing affections of the mind, may also produce this effect. Our author here interposes an interesting question. If the absence of the menses be not a positive sign of pregnancy, does their presence insure an exemption from it? The opinion of Dr. Denman is well known to be in the affirmative. This writer goes so far in support of this side of the question, as to charge those who differ from him with ignorance, or what is worse, direct falsehood. There can be no doubt, however, that this eminent physician was, in the present instance, wrong, and evidently carried away by preconceived opinions. Heberden relates distinctly in his commentaries, the case of a female, "who, during four pregnancies, never ceased to have regular returns of the menstrua, quite to the time of her delivery,"* he himself refers also to several American

* Heberden's Commentaries, p. 167.

writers, in confirmation of the simultaneous existence of menstruation with pregnancy. Dr. Dewees himself is perfectly familiar with a number of women, who habitually menstruate during pregnancy, until a certain period; after which, they cease: thus, several of them menstruate till the third month, others longer; and two until the seventh month. We think it a remarkable circumstance, that the two last mentioned are mother and daughter.

The next signs of pregnancy noticed, are nausea and vomiting, enlargement of the mammæ, areolæ, the formation of milk, enlargement of the abdomen, increased size of the uterus, pouting out of the navel, spitting of frothy saliva, and salivation, any one of which or all may be present or absent during pregnancy, and are therefore not to be relied on exclusively in forming of an opinion on so delicate and important a question.

Under the head of enlargement of the abdomen, Dr. Dewees has favoured us with the following case, which will abundantly enforce the necessity of caution and minute examination.

"This young lady's case was submitted to a medical gentleman, who, from its history, and the feel of the abdomen, pronounced it to be a case of pregnancy, and advised the sorrow-stricken mother to send her daughter immediately to the country, as the best mode of concealing her shame. Not willingly yielding to the opinion of her physician, (a young man,) and moved by the assertions of her agonized child, we were consulted. The history of the case was thus briefly given: "She commenced at between twelve and thirteen to be regular, and continued to be so until late last fall, at which time she had a very smart attack of the then prevailing epidemic; of this she was, however, relieved by the usual remedies; since that time she has never menstruated; she gradually swelled in the belly; her stomach much affected, especially in the morning; the breasts were a little enlarged, but not much."

"We examined the mammæ, and found them a little tumid, but without areolæ; the abdomen was much enlarged, tense, and hard, in consequence of a large tumour which was confined to the left side of this cavity, and which could be easily traced throughout its right and inferior margin, and proved (at least in our opinion) to be an enlarged spleen; no tumour was found in the pubic region, consequently the uterus was not found enlarged; the navel was sunk, and upon an attempt to pass the finger into the vagina, we found so much evidence of her continency in the resistance

offered to it, that we did not persevere, being perfectly satisfied from the condition of the parts that she was a virgin. We unhesitatingly, and with no common degree of pleasure, declared the poor child to be free from the charge so heedlessly and cruelly preferred against her." p. 107, 8.

One of the severest symptoms to which pregnant females are liable, is the morning sickness and vomiting. There is not much danger attending this affection in general, but cases are not wanting in which it has proceeded to such lengths, as to have baffled all the skill of the medical attendant. Mr. Vaughan's case related in the Medical Memoirs, is probably known to our readers, in which it became necessary to nourish the patient by clysters and the external application of milk. Our author's treatment is so judicious, that we shall be excused if we give a short account of it. In slight cases a glass of warm water or camomile tea, taken as soon as nausea is felt, will shorten the sickness by inducing vomiting. If acidity prevail at the time, soda water is very proper. When the bowels are torpid, calcined magnesia is the best laxative. Should the nausea and vomiting continue through the day, so that the food is thrown up, the patient should be confined to a table-spoonful of milk every fifteen or twenty minutes, and not allowed to take any thing else. Lime water may be occasionally added. When alkaline remedies fail in relieving the acidity, as they often do, Dr. Dewees has recourse to acids themselves, both the vegetable and the mineral. The vegetable are however the best. Lemon juice and water has frequently produced the most decided benefit. In cases of plethora, bleeding is necessary, especially if the patient complain of head-ache, and when there is pain or burning in the epigastric region, leeches have been found useful. The spirit of turpentine is finally recommended in twenty drop doses, three or four times a day, mixed in cold sweetened water. The diet should consist of such articles as the patients' experience proves to be best suited to their stomachs. Dr. Dewees mentions the case of a female who could retain nothing except Indian meal cake, baked pretty hard upon a

board. This she was allowed to live upon for weeks, and she did it with advantage.

In heart-burn the following pills are recommended.

℞. Gum. aloes suc. ʒss.
Pulv. Rhei. ʒi.
Ol. Caryoph. gutt. iv.
Sapo. Venet. gr. viii.
Syr. Rhæi. q. s.
M. f. pil. xxx.

One of these is to be taken every night, or every other night, as may be eligible.

Leucorrhœa.—Dr. Dewees considers it highly improper to use active remedies for this affection, when it is an attendant on pregnancy; until this period has elapsed, he therefore uses a temporising plan consisting in ablutions of luke warm water three or four times a day, and mild astringent injections.

When it is idiopathic and independent of pregnancy, a different plan is necessary for its management. It is divided by our author into three stages, each of which requires a modification in the treatment. In the first or most simple form, the matter is glairy and transparent, accumulating in the vagina, and then discharged by a sudden effort of the patient, or by its own weight. This is never acrid, unless cleanliness is neglected. The treatment consists of frequent ablutions with warm water, purging when the patient is plethoric, and the tincture of cantharides, in the dose of thirty drops three times a day. This dose is to be increased five drops every third day, until strangury is produced, unless the disease is previously arrested. As soon as a change is induced in the discharge, astringent injections of the acetate of zinc, in the proportion of five or six grains to the ounce of water, or of the sulphate of copper, half a drachm to eight ounces of water are to be used. The tincture of cantharides given as above, seldom fails in effecting a cure. The dose has been increased by Dr. Dewees to two hundred drops three times a day.

In the *second* stage the discharge has a white or purulent appearance, and is more abundant than in the first stage; it is also more acrid. Pain in the back, hips, and pubic region accompanies this stage, the patient's complexion is sallow, and when the discharge is excessive, nervous symptoms arise, and are very troublesome to manage. The system generally sympathises with the part affected, and the pulse is very hard and irritated. The treatment is as before, with restriction to vegetable diet, and bleeding pro re nata. When the pulse is in a proper state, cantharides is also administered.

In the third stage, all the symptoms are aggravated. The discharge is green, frequently tinged with blood, and the symptoms of general irritation are greater than before. Bleeding is more often required in this stage, and more strict attention to diet becomes necessary.

Deranged menstruation is next considered under all its different forms, and with our author's usual minuteness and judgment.

We then come to the most interesting portion of the volume before us, the consideration of labour. In the management of this part of his subject, Dr. Dewees is undoubtedly superior to any author who has preceded him, not only for the extensive view he has taken of labour in general, but for the happy and minute directions with which he furnishes the young accoucheur to enable him to act with decision, propriety, and skill, when first placed in that most terrible of all medical ordeals, the bed-side of a lying-in woman. Those only who have experienced the anxiety and misgivings of inexperience when first exposed to an active discharge of its duties, and the ready application of its previously acquired knowledge, can sympathize with the feelings of young men when called to a first case in midwifery, and they will best appreciate the value of the assistance which Dr. Dewees has here rendered. As a specimen of his minuteness, we shall quote the following directions, selected from many others.

"To conduct a labour with safety, the practitioner should be well acquainted with its phenomena: the order or succession of them; where cer-

tain of them may be wanting or are in excess; the relative or positive importance of each; the force or effect of each pain; the necessity of preserving or of wasting the waters; the resistance the os uteri or external parts may offer; the situation of the former as regards the presenting part; the certainty of the presentation, both generically and specifically; the mode of rectifying any error of presentation in proper time; the capability of doing this with the greatest advantage to the patient and to the infant; and "though last not least" in importance, is the pursuing a firm, candid, and feeling conduct throughout the whole scene, that he may not be betrayed into indiscretion, by the overweening anxiety of the friends of the patient; that he may not lose the important moment to act, from an apprehension that blame may attach upon the disclosure of its necessity; and that the poor suffering woman may derive every advantage his kindness and sympathy may afford."

"1st. Let all communications to the patient of a delicate nature, be conducted by a third person; the nurse, when present, should always be that person; in her absence an elderly friend.

"2d. Endeavour, by a general and well chosen conversation, to divert the patient's mind as much as possible from the purpose of your visit, when your services are not immediately required.

"3d. When your presence is not absolutely necessary in the sick room, be as little in it as will be consistent with your duty to the patient—by this you remove restraint, and apparently abridge the period of your watching.

"4th. Should the situation of your patient in your opinion require to be ascertained, let the proposition be made by a third person, as the nurse, and urge, in defence of the request, all the circumstances which led you to believe it would be important, as the length of time she has been in pain; the force and frequency of her pains; the evacuation of the waters, if it has taken place; and, above all, to ascertain the progress of the labour, and whether the presentation be a proper one.

5th. If, after you have made your examination, you should be importuned for your opinion of the nature of the presentation and duration of the labour, do not commit yourself by any positive declaration, unless you are certain of the first, and pretty sure as to the latter.

"6th. Before you proceed to the examination, let your patient be placed with the most scrupulous regard to delicacy, as the slightest exposure is never necessary; let the light be excluded from the room by shutting it out if in the day, and by the concealment of it at night." p. 190, 1.

For the relief of the after pains, which are frequently severe, our author uses camphor in the following form.

℞. Gum. Camph. ʒij.
Sp. vin. rect. q. s. ft. pulv.—Add

Pulv. Gum Arab. ʒiij.
Sacch. alb. q. s.
Aq. font. ℥vi.—M.

Of this a table-spoonful is to be given every hour or two.

In the classification of labours, Dr. Dewees has adopted the arrangement proposed by Baudelocque, with the following acknowledgment, which we quote as a favourable specimen of scientific candour.

"As regards ourselves, we are free to confess, for the little we know upon the subject of midwifery, we are principally indebted to him; for to him do we owe the principles which rendered our experience of any profit to us—and could we induce every one who engages in the practice of midwifery to carefully study this great man's works, we should benefit society by rendering them so much the more competent to fulfil the duties they have undertaken to discharge. Entertaining such sentiments of the author we intend chiefly to follow, we shall not think it necessary to apologize for our choice." p. 240, 1.

The second part treats of labours that are preternatural, but which the hand alone is sufficient to terminate.

Causes of preternatural labours.—**Among these are enumerated 1st, flooding; 2d, convulsions; 3d, syncope; 4th, Hernia; 5th, obliquity of the uterus; 6th, partial contractions of this organ; 7th, compound pregnancy; 8th, descent of the cord; 9th, too short a cord; 10th, bad position of the head; 11th, exhaustion; 12th, hæmorrhages from the lungs and other organs. Each of these is discussed at large, and definite rules of treatment laid down for overcoming the difficulties they occasion. This portion of the volume cannot be too minutely studied. It is pregnant with practical information.**

Another instance of our author's minuteness occurs in his directions for conducting a preternatural labour. No circumstance is omitted which can occur to embarrass the practitioner, and he is taught to the most trifling point how to manage, in order to do justice to his patient, and secure his own approbation. Our limits, of course, prevent our entering into this part of the book.

We have already extended our notice of this excellent system so far, that we find ourselves compelled to hasten to a close. We shall therefore make only one more extract.

After treating fully of the use of the forceps, and justly condemning the doubts expressed by Dr. Denman, whether the art of midwifery has been benefitted or injured by the introduction of instruments into its practice, Dr. Dewees in the following comprehensive section, recapitulates the points to be insisted on in the use of the instrument.

"As we have dwelt upon the use of the forceps longer than we at first anticipated, though not longer than the subject required or merited, we shall sum up in a few words the principal points intended to be insisted on or illustrated: 1st, that the long French forceps are the preferable, for even the unskilful; 2d, the best position for the woman is the same as that we have recommended for turning; 3d, the bladder and rectum are to be emptied before the forceps are introduced; the former by the catheter, when the woman cannot command the discharge; and the latter by an injection, if it has not been done spontaneously a short time before; 4th, the patient and friends are always to be apprised of the intention before the operation is resorted to; 5th, the vagina, external parts, and the instruments to be coated by fresh hog's lard or soft pomatum, and the latter warmed; 6th, the forceps are never to be employed before the os uteri and external parts are relaxed, and the membranes ruptured; 7th, this condition to be promoted as quickly as possible by the best adapted means; 8th, should the uterus be in proper condition for the operation, and the membranes at the same time entire, we must rupture them that the application of the forceps need not be delayed when the case requires immediate interference; 9th, when the circumstances of the case require the use of these instruments, the application should not be too long delayed, from an imaginary fear that the woman might suffer from their use, or from an ill-grounded hope that the a woman may deliver herself—we should, therefore, not permit her to be exhausted, or the child to perish, because feeble or inefficient pains attend, or because the head of the child has not been six hours in the passage; 10th, the blades of the forceps are to be always so introduced as to be applied to the sides of the head, that is, over the ears of the child—when necessity (which is very rare) obliges us to depart from this rule, it is but an exception to the rule; 11th, they must be applied, so that their upper or concave edges will come under the arch of the pubes, at the last period of labour; 12th, should the handles of the instruments not join with ease, we may be certain they are ill applied; the cause of their not locking must be ascertatned, but they are never to be joined by force; 13th, that the head will not permit, with safety to the child, but a

moderate approximation of its sides; therefore, when compression is carried beyond this point, the destruction of the child is sure to follow; 14th, with a view to lessen all unnecessary and long continued pressure upon the child's head, the handles of the forceps should not be tied; but after each tractive effort, they should be permitted to expand themselves by ceasing to press them with the hands; 15th, each traction should be made from blade to blade, that each may act as a lever upon the head; 16th, the extent of the motion of the handles for this last purpose should be regulated by the distance from the external parts; the less the head is advanced, the more circumscribed should be the motion, and the reverse—this motion is at first nearly horizontal; 27th, the external extremities of the instruments must be raised towards the abdomen of the mother in proportion as the head advances through the external parts; 18th, should pains continue until the head has nearly passed through the external parts, the forceps may be removed; but if none attend, the delivery must be completed by the forceps." p. 314.

The remaining chapters are devoted to uterine hæmorrhage, puerperal convulsions, the placenta, inversion and rupture of the uterus, &c.; the greater part of which have been before the public several years, and passed through repeated republications. Their merit has been universally admitted, and it were therefore superfluous to dwell on them at this late day.

In the review we have now presented to our readers, it will have been perceived that we have somewhat departed from our customary rule of commenting on the passages we have noticed. The nature of the subject in part rendered this unnecessary, but we were also influenced by another reason, which was a desire to place the views of our author in full relief, unobstructed by any interposing obstacles, which discussion on a variety of the points might have freely offered. His extensive experience, his well merited popularity as an obstetrical writer, and the accuracy of his general views, all concurred in exacting this tribute at our hands, and we have freely paid it.

It will not be regarded as a detraction from the high praise we have bestowed on this work, if we suggest to Dr. Dewees a careful revisal of the composition of this volume, before he allows it to appear in a second edition. There are a great number of inaccuracies in the style and language, which should have

been avoided in a book calculated for general use. Of these we might cite several instances, but we do not think it necessary to do so in this place. We might also object to the constant use of the pronoun we, instead of I: in some instances it even appears ludicrous, and is at all times offensive to good taste.

ART. II. MEDICAL FACTS *and* INQUIRIES, *respecting the causes, nature, prevention, and cure of* FEVER; *more expressly in relation to the endemic fevers of summer and autumn in the Southern States. Together with a history of the Bilious Remitting Fever of Alabama, as it appeared in Cahawba and its vicinity in the summers and autumns of* 1821 *and* 1822. By JABEZ W. HUESTIS, M. D. Author of physical observations, and medical tracts and researches on the topography and diseases of Louisiana. Cahawba, 1825. 8vo. pp. 442.

DR. HUESTIS was first introduced to the notice of the public by his observations on the topography and diseases of Louisiana, published in 1817. That work displayed no ordinary share of learning and ability, and contained much valuable and interesting information respecting a wide tract of country, then newly acquired by our government, and little known. The chapters describing the scurvy and dysentery which desolated that part of our army which was stationed at Terre-aux-Bœufs, were more especially creditable to the author, and will even now prove important guides to those who may be entrusted with the lives of troops similarly situated. It is also worthy of observation, that this volume was composed amidst the active employments of military duty. "The substance of the following observations," (says Dr. H. in his preliminary remarks) "was drawn up during my residence in Louisiana, amidst the professional avocations of a military life. Having a field for research, and medical information, I did not suffer the opportunity to escape without

improvement. I saw the complicated character of diseases, considered their origin, and marked their progress. I committed my observations to paper; and what I saw and observed, I endeavoured to understand. The more I saw, the more I was convinced of the natural affinity and close analogy of the various modifications of those diseases which fell under my observation. From researches into their causes, and attention to their phenomena, I endeavoured to ascertain their nature. Experience, reading, and reflection at length afforded a satisfactory clue to my inquiries, and enabled me to trace the simple operations of nature, in bringing about the complicated appearances of effects."—*Observations &c. on Louisiana*, p. 6.

From this extract it will be seen that Dr. Huestis was actuated by a highly laudable zeal to extend the boundaries of medical knowledge, and turn to profit the experience which an active campaign, and the numerous vicissitudes of military life so richly furnished. It was this same zeal in the British and French army and navy surgeons, which enabled them to add so much lustre to the power and reputation of their respective countries, and to share the laurels with which their more active and less humanely employed military brethren were so deservedly crowned. Their contributions to the stock of medical experience have tended in no immaterial degree, to give that exalted character of improvement which the medicine of the present age enjoys. To them are we indebted for the development of most of those resources by which we are able to encounter the most afflictive diseases, and also for the dissipation of many of those errors and prejudices which had been handed down through the schools as an unalienable inheritance to the whole profession. If other claims were wanting, the powerful aid they have lent in overturning the monstrous doctrine of the contagion of yellow fever, is sufficient to ensure them the lasting gratitude of this and every succeeding generation. We hope these few remarks will not be thrown away. The opportunities which our naval service more especially affords,

should be improved by our medical officers; and if these pages meet the eyes of any one of these, we shall deem it no slight evidence of the value of our labours, if we should be the means of inducing them to emulate the examples to which we have just alluded.

The present work treats in the first place of fever in the general, and secondly of that form which annually visits the state of Alabama in particular.

In the first chapter, the author treats of the causes of summer and autumnal fevers in hot and tropical countries. He enters into a chemical and philosophical investigation of the preliminary circumstances of endemic fevers, also into a chemical analysis of the processes of putrefaction and decomposition, of heat and moisture, and of miasmatic exhalations. Much of what is contained in this chapter is of course already well known. It is however interspersed with many novel and sensible suggestions of the author.

In the second chapter, the nature, origin, and contagion of endemic fevers are considered, and the doctrine of the contagion, importation, and exotic origin of yellow fever is discussed at large. We need scarcely say that Dr. Huestis scouts at the idea of contagion.

Chapter third is devoted to the pre-disposing and exciting causes of endemic fever. The fourth to the primary mode in which infection operates on the system in the production of disease. In the fifth chapter the author enters into an inquiry as to the seat of fever, and supports the idea that the immediate cause of fever exists in the circulating fluids.

The sixth and seventh chapters are on the period of infection, and the theory of fermentation and putrefaction in explanation of the phenomena of fevers. Chapter eighth, ninth, tenth, and eleventh treat of the proximate cause, the symptoms, and prognosis of fevers. The twelfth gives us the appearances on dissection; the thirteenth and fourteenth treat of the prevention and cure of fever. The book then closes with accounts of the bilious remitting fever of Alabama, as it ap-

peared in Cahawba and its vicinity in the summer and autumn of 1821 and 1822.

This compressed view of the contents of the book now before us, will suffice to show that the author has entered into the discussion of some of the most important and difficult questions which have ever been agitated in medical philosophy. From the time that Hippocrates wrote his book on the air, down to the present day, the history and causes of epidemics have never failed to attract the attention, stimulate the industry, and elicit the ingenuity, not of physicians only, but of all the most enlightened men of every age and country. And yet if we compare the amount of knowledge which has been acquired, with the extent of labour which has been bestowed, we shall find little cause for exultation, or even to hope for a speedy uplifting of the veil which has so long hid from our view the origin and progress of epidemic diseases. Much has, however, been done, and every fact that is added to the store already accumulated, and every new speculation or hypothesis, however wide from the truth it may ultimately be made to appear, that is advanced with any degree of plausibility in its favour, and defended with ingenuity of argument, should be regarded with attention, as they all tend to promote inquiry, and increase the facilities for future investigation.

In the management of his subjects, Dr. Huestis has shown himself an attentive observer of the phenomena of nature, and a patient and careful student of the observations of other writers, both ancient and modern. An ingenious and cautious reasoner, he is however led away occasionally by specious appearances, and that love of simplification which confounds things essentially or specifically distinct on account of some general similitude. This error is more especially perceptible in the author's views of the identity of the ordinary bilious with yellow fever. We are aware that he is far from being singular in this opinion. Some of the brightest names which adorn our medical literature are to be found enlisted on this side of the question. And the fact that the con-

tagionists have espoused the contrary doctrine, and that they have, for very obvious and interested purposes, made no small efforts to associate it with the great question of contagion itself, has lent no little force to the spirit with which the identity of the two diseases has been maintained by many of the non-contagionists. It is not the contagionists alone, however, who contend for a specific difference between bilious remittent and yellow fever. Some of the earliest, most zealous, and most powerful opposers of contagion have supported the same opinion, and to our apprehensions with indisputable power of fact and argument. That this may not seem to rest on our mere assertion, we shall, in the first place, quote two or three writers who have treated on the subject, and whose authority will not be disputed, and, in the second place, mention those points of distinction, which the recorded experience of others and our own in both diseases have enabled us to trace with marked accuracy.

One of the most enlightened and forcible writers on the yellow fever, and one to whom subsequent authors have been much indebted for their knowledge of the character and method of treating this afflicting disease, is Moseley. Intimately acquainted with the yellow fever of the West Indies, and possessing a powerful and discriminating mind, he was early led to reject the belief in contagion which had been before his time so prevalent, and also to draw the decided line of demarcation between the ordinary remittent of all hot countries and climates, and the yellow fever. Thus in one place he states, "the *bilious remittent fever* is a common disease, with which the *endemial inflammatory fever*, (called the *yellow fever*,) has been so much confounded by writers."* In another, speaking of two unfortunate physicians, Williams and Bennet, who terminated their disputes on yellow fever by killing each other in a duel, he says "both adopted the opinion that the yellow fever was a bilious fever, and gave it that appellation, and though Williams's indications of cure were rational, he was

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* Moseley. A Treatise on Tropical Diseases, &c. fourth edition. p. 203.

not able to distinguish it from diseases *really* bilious. This want of discrimination," Moseley adds, "had always existed in the West Indies, and the consequence was, that cardiacs, and refrigerants, evacuants and bark, emetics and bleeding, *frequently* and *fatally* usurped the place of each other."* Again: in defending his opinion that yellow fever is a species of the Καυσος of Hippocrates, Aretæus, and Galen, and he does it with no small degree of plausibility, he says, "it is *totally* different from the remittent bilious fever to which all habits of body are subject in hot climates, particularly after rains, and in the fall of the year."† On the symptoms and treatment, this same author observes, that "they who have mistaken the bilious remittent, for the causus, consequently speak of remissions, which do not happen in this disease,"‡ and "that emetic tartar, however useful it may often be in bilious diseases, will be fatal in this."§

In opposition to the author, whose opinions we have now cited, Hillary may, by some, be referred to. This author calls yellow fever a putrid bilious fever, and like Dr. Huestis, he thinks that "the bile has a great, if not the greatest share in producing this fever."‖ Before we give any weight to this assertion of Hillary, we should remember that he was warped in all his views of disease by the exploded doctrines of "first and second concoctions," "the bile and all the humours of the body being inquinated with a putrid bilious acrimony," and this to so great an extent, that he considered the black vomit merely *putrid bile*. Another circumstance concurred to lead Hillary astray. This was the belief at that time prevalent in the West Indies, that the liver was necessarily and primarily affected in all the diseases of warm climates. Bile was regarded as the prominent cause of fever, and the sickness of the stomach, and dark vomitings were accounted for by the affection of the liver, while the more prominent gastric affec-

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* Moseley, p. 138. † p. 411. ‡ p. 467. § p. 459.
‖ Rush's Hillary, p. 112.

tion was overlooked. What confirms us in the opinion that Hillary was in this instance deceived, is the fact that in his treatment he denounces emetics which had been before recommended, thus showing his practical sagacity, notwithstanding his attachment to scholastic dogmas. That Hillary should have erred in this respect, may be regretted, but can scarcely be matter of surprise. He was one of the pioneers in the discussions which have since so multitudinously increased respecting yellow fever. But that Dr. Huestis, with his learning and judgment, should at the present day assert, "that a redundancy of bile is one of the most inseparable symptoms of yellow fever, and that therefore a name expressive of this circumstance must be considered more appropriate than any other,"* strikes us with perfect amazement. We cannot in this place contend the point at large, but shall go on and mention another highly respectable author in favour of the opposite doctrine.

We allude to Dr. Robert Jackson, so well known by his masterly treatises on the fevers of warm climates, and latterly by his full and accurate description of the yellow fever of Spain. This justly celebrated physician offers to the world the interesting spectacle of a man of science, who has been engaged, for more than half a century, in the investigation of disease, and who, at the advanced age of seventy-five, promptly quitted the sweets of retirement, and fearlessly undertook a distant voyage to the sources of a raging pestilence, in the hope of ascertaining its character, and shedding additional light on the long agitated question of contagion. It is no small confirmation of the truth of the non-contagious doctrines, that the enlarged and prolonged experience of a Jackson is strongly enlisted in their favour, and it will not be denied that his opinion with respect to the specific difference between yellow and bilious fevers is equally entitled to our respect. He expressly discriminates the yellow fever from

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* Page 105.

the *endemic remitting fever*, inasmuch "as it has no remissions, nor exacerbations, does not attack the same person twice,* unless accidentally on his return from a colder region; attacks lately arrived Europeans, and not those who are climatized or natives; while the remittent does not cease to attack those who have resided long in warm climates."†

In our own country, two of the latest writers on epidemics, Dr. Chapman of Philadelphia, and Dr. Joseph M. Smith of this city, have both espoused the opinion that there is a specific difference between the two diseases.

It is an error therefore to suppose, that it is to contagionists alone that the belief in a specific difference between bilious and yellow fever is confined. Having satisfactorily shown this, we shall now proceed to offer a few reasons, which induce us, independently of the opinion of others, to maintain the same doctrine. This we shall do under four distinct heads, and we must, for obvious reasons, be brief and summary in our remarks under each.

1. The yellow fever differs from the bilious remittent in its *history*. The former prevails in places near the sea-coast only, and has never yet appeared farther north than 44° N. The bilious fever, on the contrary, appears equally in the interior of countries, and on the coast, and is constantly occurring in places situated as high as 55° N. Nor is the appearance of yellow fever confined to the sea-coast in temperate latitudes only; this rule holds equally good in the tropics themselves—in the West Indies, and on the continent of South America.

The yellow fever occurs at indefinite periods, marked frequently by no traceable resemblance in their general

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* It has often amused us to observe with what conceited complaisance certain writers in this country have pretended to the discovery that yellow fever attacks once only. These sciolists are not even aware that this position is true under certain restrictions only! To these men we say, "drink deep, or taste not."

† Jackson on fevers, p. 163.

character as to moisture and heat; the bilious fever always appears where heat and moisture, and miasmatic exhalations concur. Thus the yellow fever did not prevail in New-York or Philadelphia from 1760 to 1793, although in the meantime the bilious fever was repeatedly observed as often as its appropriate causes had an opportunity of action.

The yellow fever in the tropics does not attack natives or seasoned foreigners, but is confined to strangers within a year or eighteen months after their arrival. Hence it may be laid down as a general position, that yellow fever does not, under the same circumstances, attack the same individual twice. The exceptions to the rule are furnished by those, who, after having lived in a warm climate, visit a cold region, and then return again to the tropics. Under this exception are included the permanent residents of temperate climates, whose systems assume a new pre-disposition for the disease under the agency of the winter's cold.

The bilious fever, on the contrary, attacks the natives and seasoned inhabitants, and one attack, so far from imparting an exemption from future attacks, rather pre-disposes to them. This observation applies to temperate, no less than tropical countries.

2. These fevers differ in their *causes*. It is scarcely necessary to say more under this head than what will not be denied, that while no one disputes the agency of moisture, heat, and malaria in the production of bilious fever, the causes of yellow fever are still matter of dispute, not between contagionists and non-contagionists only, but among these respective parties themselves. The truth is, that the causes of yellow fever are as yet hidden in obscurity. Some of the causes of bilious fever appear indeed accessary to the production of yellow fever, but that there must be others entirely distinct is abundantly proved by the fact that they are not alone sufficient to its production, else why are these fevers not simultaneous in their occurrence?

If the causes differed merely in grade, is it not a singular circumstance that the lesser grade shall continue to produce

its effects on acclimated individuals, in the tropics for instance, while a more powerful and concentrated grade shall be inert; that is, the same cause in less quantity shall continue to produce bilious fever, perhaps annually, while in greater quantity, it cannot act so as to produce yellow fever?

3. These fevers differ in their *symptoms*.

The yellow fever consists of one paroxysm of fever only. This is followed by a total cessation of febrile symptoms, not a remission, and this again by a state of collapse; no distinct exacerbation ever re-appearing. Lest we should be supposed to be unsupported in this statement, we refer to the descriptions of yellow fever by Lining, Moseley, M'Arthur, &c., as constituting the disease truly called yellow fever.

Valuable as the New-York Medical Repository undoubtedly is in other respects, it is calculated to diffuse much error with respect to the true character of yellow fever, there being multiplied instances of ordinary remittent fever described in it, under the appellation of yellow fever. A careful analysis will expose the error in almost every instance.

The yellow fever most usually runs its course in a short time, say from three to five, or to seven days.

The bilious fever generally continues from nine to twenty-one days.

The stomach is always and essentially affected in yellow fever, as is evinced by the burning heat about the præcordia; the pain at the pit of the stomach, the vomiting of matter not bilious, but evidently a secretion from the stomach itself, or whether a secretion or not, proceeding from this organ alone.

In bilious fever the stomach may indeed be affected, but it is in a milder degree, and this organ cannot be considered the seat and throne of the disease.

The pulse and temperature in yellow fever are frequently natural; in bilious fever they are never so. The appearance of the eyes is very different in the two diseases, as is that of the suffused skin.

The muscular system always suffers under great debility as bilious fever advances, while the arterial system is more

and more excited. In yellow fever, on the contrary, the muscular strength is retained to the very hour and moment of death.

The appearances on dissection differ also very materially in the two diseases. To sum up all the points of difference will scarcely be expected of us in this place. It is enough to mention the different conditions in which the stomach is found after death in the two diseases.

4. The *treatment* required in the two diseases differs essentially. Bleeding, emetics, cathartics, &c., are obviously indicated in bilious fever, and if properly directed, seldom fail to produce their intended effects, and relieve the patient. In yellow fever, it is still matter of dispute what treatment is most proper, and of the measures proper for bilious fever, some are improper in yellow fever, and others seldom produce any effect at all. Thus bleeding is still considered a doubtful remedy in yellow fever, and emetics, which are indispensible in bilious fevers, are positively contraindicated.

But it is unnecessary to extend this topic farther. We have advanced enough to show that the lines of distinction between the two diseases are pretty well defined, and we have devoted the more space to it in this article, because the whole of Dr. Huestis's work is tinged with what we consider an important error, which affects not mere theory, but is actually fraught with danger in practice.

Chapter V. *Inquiry into the seat of fever.* Our author undertakes to adduce facts in support of the opinion, that the immediate cause of fever exists in the circulating fluids. We cannot flatter him that his attempt has been at all successful. The facts brought forward go indeed to prove that the fluids can be affected by morbid poisons, and as far as this general fact bears on the subject in point, so far is it rendered probable that in fever the fluids may be affected. No immediate proofs are however offered that they are so, nor do we see any force in the argument, that if the brain and nerves are first affected, febrile commotion would not be communicated to the heart and arteries. This translation of action appears to us as

possible, nay more probable, in the case of fevers, than the converse.

Chapter VI. *Fermentation and putrefaction.* Instead of any abstract of our own, we shall let the author explain his own views on these interesting subjects, observing by the way that they are exceedingly judicious and forcible.

"In scurvy, which has been called a putrid disease, so far are the fluids from being in a state of putridity, that from the experiments of Dr. Lind, it appears that blood drawn from scorbutic patients corrupts no sooner than the blood of healthy persons; and that flesh steeped in the serum of similar blood, continued sweet and free from taint, as long as in the serum of persons in health. Besides, to suppose any degree of putrefaction during the existence of animal life, is to presume a condition incompatible with living organized matter; such a condition would put a period to our hopes, and render the efforts of the physician unavailing; for when once putrefaction has taken place, the restoration of health is no longer within the reclaiming power of medicine; the animal substance is lifeless and disorganized, and mixes with its kindred elements."

"The offensive odour of the body, and the speedy putrefaction after death, have been adduced as arguments in favour of a state of putrescency in malignant diseases: but, as I have shown in my treatise on scurvy, the first affords no argument to the advocates of this opinion, as proving nothing more than that the excretions are in a morbid state; the same thing is observable in most fevers, and is particularly striking in persons labouring under salivation. But in all these instances the odour is different from that of putrafaction."

"Nor does the body putrefy sooner after death from typhus, than it does in other instances, where the vital principle is equally exhausted. It was observed, indeed, by Lind junior, Hamilton and Moore, that putrefaction proceeds more slowly in the bodies of typhus patients than in others. Whatever exhausts the vital principle has a tendency to accelerate putrefaction. It is from the exhaustion of this principle, and not from any putrid ferment present in the blood or any other part of the body that putrefaction is accelerated after death. It is from this cause, and not from the presence of any putrid ferment, that animals exhausted in the chase soon become putrid after death; the same things take place in those killed by lightning; which occasions the total exhaustion of vitality in every part of the system; and as soon as vitality is destroyed, the process of putrefaction commences. It is from the deleterious property of carbonic acid gas, that those who die of asphyxia from sleeping in a close stove room, soon putrefy and undergo rapid decomposition."

"As the febrile poison is immediately applied to the vascular system of the circulating fluids, it is not surprising that they should more especially

suffer, or lose their tone, together with their power and energy of action. It is upon the healthy condition of the blood, that the health and soundness of every part of the system depends. In proportion as the cause of fever is violent and powerful, in the same degree is the vitality of the body more rapidly impaired and exhausted; and in proportion to the exhaustion of the vital principle is the tendency to putrefaction. The flesh of animals that are killed in the ordinary mode, retains a considerable portion of the *vis insita*, or inherent principle of vitality, even after the body is dressed and dissected; it is this remains of vitality that preserves it sweet and untainted; as soon as this is extinct, it begins to putrefy and becomes offensive. The flesh of animals exhausted in the chase or by baiting, has lost a considerable portion of the vital principle, from the violence of the exercise, previous to their being killed; hence the flesh is soft and tender, and runs speedily into putrefaction: the same thing often takes place in yellow fever, from the almost total extinction of the vital principle before the patient has ceased to breathe.

"From all which it would appear that the doctrine of a putrid tendency in the animal body, receives no countenance and support from any state and condition of the bile. Since putrefaction is incompatible with life, is it not absurd and unphilosphical to talk of a tendency to an event which, in the nature of things, never did nor ever can happen in the living body? Was ever life destroyed by a tendency to putrefaction? We are told, moreover, that the fluids of old persons are more disposed to putrefy than those of the young; but more accurate observation informs us, that the flesh of young animals is somewhat more prone to putridity than that of old animals: and it is important to remember that an acrimony of the fluids is very different from a state of putrescency. That the fluids and excretions of the body are more acrimonious in the aged than in young persons, is a physiological truth, confirmed and proved by general observation: such an acrimony however, has no connexion with, or dependence upon, any putridity or putrid tendency of the system. This subject may, probably, be correctly illustrated, by saying, that the fluids and solids of old persons are more highly animalized than those of the young; hence their acrimony and disagreeable odour; in the same way as takes place in carnivorous animals, whose bodies and fluids, from the exclusive use of animal food, acquire an acrimony and rancidity, similar to that which naturally occurs in advanced life in the human constitution. Hence it probably was, that the flesh of all quadrupeds except those of the ruminating kind, which live exclusively upon vegetable food, was prohibited to the Jews by the Levitical law of the Old Testament: for, inasmuch as the flesh of these beasts is already too highly animalized, the use of it would produce a hurtful excess of this disposition in the human system.

"Life is frequently destroyed by fever, and, as before remarked, it may be said that every thing that has a tendency to produce death, has also a tendency, in one sense, to produce putrefaction; for death is the com-

mencement of this process; and whether life has been terminated by a fever, the Samiel blast, a fit of apoplexy, or a fracture of the head, there is an equal tendency to putrefaction; but to say that death is produced by a putrescency of the fluids, is anticipating a change compatible only with death itself." p. 197, 8, 9, 200. 202.

Chapter VIII. *Proximate cause of fever.* Were we inclined to enter into a prolonged discussion, we should have ample materials presented to us in this chapter. Our limits will not permit us at present, to do more than simply to allude to one or two points, which we deem exceptionable. In the first place, we should object to the very term *proximate cause*, as unmeaning, and one which ought long since to have been struck from medical nomenclature. In the second place, we should object to the doctrine, that the essence of fever consists in a vitiation of the fluids, and that the solids, if at all affected, are only so secondarily. Just the converse of this should we take to be the fact. We are willing to admit, at the same time, that Dr. Huestis has defended his theory with much ingenuity of argument and appropriate illustration, in proof of which we shall make the following extract, leaving our readers to judge of its force for themselves.

"It would appear from the consideration of what has already been advanced, that by the operation of the remote causes of fever, a change in the condition of the fluids of the body is effected, and to this change from a healthy to a morbid state, the various symptoms and phenomena of fever are to be ascribed. I am at the same time, however, fully aware that there are many symptoms of fever that cannot be explained without a reference to the brain and nerves; such as pains, spasms, delirium and convulsions: but it is well known that these symptoms may all be produced by a primary operation on the sanguiferous system. We can hardly suppose that an organ of such a delicate structure as the brain, should not feel the effects of any vitiated fluid circulating with increased violence through its substance, rapidly depriving it of its accustomed nourishment and health, and depositing poison instead of a healthy secretion. And we accordingly find that all extraneous and poisonous substances, when injected into, or taken up by the blood-vessels, produce similar effects. Thus the retention of excrementitious matters in cases of ischuria, has produced every symptom of the most malignant fever, and after death, urine has been found extravasated into the ventricles of the brain. M. Delile and M. Magendie of Paris, have demonstrated the power which poisons possess in affecting the ner-

vous system, when admitted into the blood-vessels; and have shown that their operation can only be explained upon the principle of their being received into the general circulation, and through this medium acting upon the nervous system. This was illustrated by the following experiments: The thigh of a dog was amputated with the exception of the trunks of the crural vein and artery; the thigh was then pierced with a pointed piece of wood dipped in the upas; in another, a few drops of the upas were enclosed between ligatures, in a section of the intestines divided from the mesentery, and having no other connexion with it, than by a vein and artery. In both cases the poison was carried from the insulated parts into the general circulation by the vessels which remained, and the animals died of tetanus, in the same way, though the effect was not so sudden, as when the poison was applied to the spinal marrow cut transversely. Experiments to the same purpose have been made by Dr. Wilson Philip, and others.

"The coma, stupor, and oppression in fever, may be ascribed partly to the direct influence of the morbid condition of the blood itself upon the brain, and partly to its diminished state, by which serum is effused into the ventricles, producing the symptoms of compression.

"Even from the imperfect knowledge which we possess of the animal economy, we have every reason for concluding that the immediate cause of fever exists in the circulating fluids. We know from extensive experience that the nervous system may be violently affected without disordering the functions of the heart and arteries: and independent of experience in disorders, we are led to the same conclusion by physiological knowledge, from which it appears that the heart and arteries are not influenced by causes acting on that portion of the nervous system connected with the voluntary functions. These sympathies, however, are not reciprocal; for universal experience teaches us that in all diseases of the sanguiferous system, the brain and nerves are more or less affected. We see this in the inoculated small pox, in that form of fever produced by the retention of urine, in cases where poison has been injected into the blood-vessels, and in fevers generally." p. 219, 20, 1.

The chapters devoted to the symptoms, prevention, and cure of fevers, display a wide extent of research, mature reflection, well-digested experience, and a safe and judicious discrimination in practice. On all these subjects the author is so full, that it would be doing him injustice to attempt an abstract of them. They merit perusal, and will reward the reader with much valuable practical information.

In the descriptions of the bilious remitting fevers of Cahawba, Dr. H. has entered into a practical illustration of the views explained in the body of the work, and given us much

interesting information respecting the treatment pursued. Throughout his work, Dr. Huestis gives evidence of a reflecting and cultivated mind, zealous in the cause of medical science, and disposed to contribute all in his power to its extension and improvement. We sincerely hope that his efforts will continue unremitting. His opportunities and situation in the Southern States afford him full scope for the indulgence of his laudable propensities, and we believe they will not be thrown away. We shall be at all times happy to hear from him.

ART. III. *Researches and Observations on the use of* PHOSPHORUS, *in the treatment of various diseases.* By J. F. DANIEL LOBSTEIN, M. D., of the Faculty of Paris, late Physician of the Military Hospitals and army of France, &c. &c. 8vo. pp. 107. Philadelphia, 1825.

THE author of this little work informs us, that it was originally published in Europe in 1815, under the title of "*Recherches et Observations sur le Phosphore.*" From the favourable reception which it there met with, he has been induced, since his removal to this country, to offer a translation of it in the English language. In so doing, Dr. Lobstein has rendered an acceptable service to the medical public in this country, although we cannot flatter him with the prospect that his medicine, notwithstanding his high encomiums of it, will ever become very popular. On this point, however, it is not becoming to speak with any degree of certainty. It is an old remark, and certainly a just one, that our most virulent poisons are among our best medicines. And it is impossible for us to say whether at some future period of progressing knowledge, the active and deleterious properties of phosphorus may not be so completely brought under the dominion of science, as to render it not merely a safe, but an invaluable addition to the stock of our materia medica. At any rate it is the part of true philosophy to investigate with accuracy

the precise powers of every article capable of producing such potent effects on the human system.

The first and second sections of Dr. Lobstein's book, relating to the history of phosphorus, and to its physical and chemical properties, contain nothing worthy of particular notice.

The next section treats of the mode of administering phosphorus, and is important, inasmuch as its effects differ very materially, according not merely to the *dose*, but the *vehicle* in which it is given. The form which of all others is preferred by our author, is the solution of it in sulphuric ether. It is the only way in which he thinks phosphorus can be given with safety. The addition of a small quantity of distilled aromatic oil, renders it still more active and regular in its operation. The solution of the phosphorus is thus made more perfect. To prevent its decomposition, which is the principal object to be guarded against, it should be given in a little syrup, or on a lump of sugar.

With regard to the dose, our author tells us, that experience has proved, that in the majority of cases, one grain of phosphorus is a sufficient quantity to be taken in twenty-four hours. Hufeland states, that to give it in larger quantities than two grains in twenty-four hours is attended with danger. The only general rule that can be safely observed in administering this powerful article is to commence with small doses, and to increase them as circumstances may require. Whenever it causes a sensation of burning in the stomach, or vomiting, its use is of course to be discontinued.

Professor Lœbenstein Lœbel, who appears to have made extensive trials with phosphorus, has furnished some interesting facts concerning its operation, which are detailed by our author. According to his experience, a larger dose of it can be borne in cold and rainy seasons, than in those in which the air is dry and pure. Taken when the stomach is empty, he has never witnessed any good effects from its use. Food should have been taken at least an hour before its exhibition. With regard to the regimen suitable during the use of phos-

phorus, he tells us that highly seasoned food, acid drinks generally, milk, fruits and vegetables, such as cabbage and radishes are injurious. The articles last mentioned are more especially incompatible with the use of phosphorus. They occasion a sense of fulness about the præcordia, accompanied by an intolerable anxiety and heart-burn; and not unfrequently vomiting and purging. In cases where the appetite is impaired, aromatic soups, with nutmeg, decoction of vermicelli, sago, &c. may be used; where the appetite on the contrary is good, and digestion vigorous, animal food and the leguminous vegetables are recommended as the proper aliments. As a drink, salep, and other mucilaginous articles, mixed with good wine, are allowed. No drinks, however, are to be allowed immediately after taking the phosphorus. During its use, the patient should be particularly cautious to avoid the effects of cold, which, however gradually applied, produces vertigo and diarrhœa. Flannel is recommended to be worn, and the warm bath frequently to be used as an auxiliary. It is stated that professor Lœbenstein Lœbel "often employed phosphorus for two months without any evident effect, until he has had recourse to the warm bath, when the most striking change was observed. This was particularly the case in nervous diseases. The patient should not remain in the bath more than a quarter of an hour."

We have been designedly thus minute in relation to the manner in which phosphorus is to be used, for the purpose of putting on their guard those who may be inclined to make any experiments with this powerful substance.

The next section treats of the "effects of phosphorus on the animal economy."

To ascertain the effects of phosphorus, several physicians have made experiments with it on their own persons. Alphonse Le Roy took three grains of it in treacle. For two hours he found himself in a state of great uneasiness. On drinking frequently of small quantities of cold water, this went off in a few hours. His urine was of a high red colour:

on the next day his strength was doubled, and his venereal appetite insupportable.

Doctor Bouttatz took twenty drops every four hours, of a solution of four grains of phosphorus in half an ounce of ether. The first dose occasioned nausea, which was relieved by drinking some cold water. The second created a great appetite ; the pulse was excited, the natural temperature augmented, and a universal excitement produced. He continued its use until evening, and no inconvenience followed ; on the contrary he found an augmentation of strength, and a great excitement of the genital organs. His urine was also much increased in quantity.

According to our author, " phosphorus is a remedy which extends its action over every part of the animal economy, but it is in the nervous system that it more particularly demonstrates its power. Its action is very prompt, intense, but not durable. It is one of the most powerful of the volatile stimuli, and is particularly calculated to revive failing vitality."

In acute diseases, as typhus, nervous fever, &c., Dr. Lobstein gives the following account of the effects of phosphorus.

" In acute diseases, as typhus, nervous fevers, &c. the effects of phosphorus are manifest sometimes in the course of about four hours, at others only after twenty-four hours. The temperature of the body is restored, perspiration produced, the pulse relieved, the urine is passed in greater quantities, and contains an unusual quantity of sediment; the bowels, if they have been constipated, become relaxed; the stools have a sulphurous odour, and are luminous in the dark: delirium ceases, and the patient recovers his mental powers; gentle sleep repairs his strength; his tongue becomes clean, the appetite returns, and in fine, joy seems depicted on all his person, &c.

" These phenomena are differently manifested in individuals of different ages, also in different diseases. They are less observable in chronic diseases." p. 30.

An account of various interesting experiments upon animals is given by our author, which we quote.

"Dr. Bouttatz triturated a grain and a half of phosphorus with the yolk of an egg, some sugar, and two ounces of water. He mixed a small portion of this with bread and meat and gave it to two cats; one of the cats eat of it, the other not being hungry, smelled it several times, but would not eat it. The first cat vomited, an hour afterwards, all that she had eaten, but again eat what she had thrown up, as is the practice of these animals. Her cries indicated much uneasiness; she vomited a second time, and was seized with violent convulsions; she ran to the right and left, and frequently jumped half a foot high. By ten o'clock at night all these symptoms were exaggerated. The convulsions were so violent that the animal rolled about and extended her paws again, she would throw herself on her back, extending her legs upwards, and remaining sometime in this position, she would cry piteously. It was impossible to make her drink. After about eleven hours these symptoms subsided, so that hopes were entertained of her perfect recovery, but she eventually died.

"On dissection her stomach was found empty and somewhat inflamed; the inflammation was more strongly marked in the duodenum, and the gall-bladder, the lower intestines were tumefied, and were phosphorescent in the dark.

"Of six dogs to whom Professor Lœbenstein-Lœbel administered phosphorus, he was able to save but two by pouring oil down their throats. Dissection of the others showed distinct traces of gangrene of the stomach: this viscus was hardened, and presented numerous brown spots, with black specks in the middle, which when rubbed with the fingers gave out a disagreeable odour resembling burned horn or sulphur. They were not frangible, but hard like horn.

"Dr. Giulio, Professor of medicine at Turin, and also doctors Brera and Mugetti, have made analogous experiments on dogs, young cocks and other animals. The vapour of phosphorus, and also the simple contact of the solid substance with the fauces proved fatal to frogs." p. 33, 34.

To show with what caution phosphorus should be administered, it is proper to allude to some of the effects which have been known to result from its use. In some instances it has produced scirrhus of the stomach, and all its attendant evils. Hufeland knew many cases in which persons who had taken phosphorus from quacks, after having been afflicted with cardialgia, indigestion, &c., finally sunk under marasmus and hectic fever. On dissection, the stomach was observed in a scirrhous condition.

The following tragical case is related as occurring to professor Lœbenstein Lœbel.

"He gave only the eighth of a grain of phosphorus in substance, to a man who had been eight years affected with epilepsy consequent to affright; and twenty-five minutes after taking this dose, the patient felt an extraordinary heat in the stomach, which was succeeded by great thirst, anxiety, and convulsions of the muscles of the face. He complained of chilliness, the extremities became cold, the eyes glassy, the lips pale, the pulse feeble, and the strength diminished, until death terminated the scene."—p. 32.

The following case is related on the authority of professor Lauth of Strasburgh.

"A woman aged fifty-two, was afflicted for a year, with pain in the limbs and weakness, to such a degree that she was scarcely able to walk. She took, during three days, a spoonful of phosphoric emulsion, containing one-fourth of a grain of phosphorus, morning and evening. On the fourth day she took three doses, and shortly after she vomited an insipid water, and complained of violent pain in the stomach. The use of the phosphorus was now suspended, and mucilaginous drinks prescribed, but without success in alleviating the pain. It was felt throughout all the belly, but was more particularly intense in the stomach. The patient continued to vomit greenish matter, and finally black; her stools were of the same nature. The belly became tympanitic and extremely sensitive: the fever, which commenced with the pain in the stomach, was accompanied by a small and very frequent pulse: all the symptoms indicated inflammation of the stomach and intestines, with which the patient died after three days suffering.

"Professor Lauth opened the body on the next day. The lungs presented nothing remarkable. The epiploon, which was very large and fatty, covered the smaller part of the intestines. The exterior of the stomach presented no sign of disease, but all the small intestines were livid and black, and the mesentery exhibited signs of excessive inflammation. He opened the œsophagus, the stomach and the intestines; the internal surface of the œsaphagus was inflamed, the stomach and small intestines were filled with a black fluid, and their internal surface was of a reddish colour. Besides this general inflammation, the internal surface of the cordia was studded with innumerable points, as if it had been burned; the large intestines were in a natural condition." p. 37, 8, 9.

The next section is entitled, "clinical observation," and contains a collection of cases reported by different distinguished physicians who have tested the virtues of phosphorus as a medicine. The authors from whom the cases are selected, are Alphonse Le Roy, Weickard, Conradi, Hufeland,

Gaultier Claubray, Lentin, Luitzelberger, Handel, Remer, and Lœbenstein Lœbel. The diseases in which phosphorus was found useful by these physicians, were putrid, malignant and intermittent fevers, in chronic cephalalgia, extreme debility, gout, paralysis, dropsy, passive hæmorrhage, epilepsy, gutta serena, mania.

The remainder of the book is occupied with original cases by the author. For them we must refer to the work itself, which terminates with the following summary, with which we shall close our notice.

"It is inferred, from what has been said respecting the medical use of phosphorus,

"1st. That it is a remedy capable of producing extraordinary effects in various internal diseases.

"2d. That it is extremely dangerous to administer it in substance, as in that form it is capable of acting as a caustic, and producing the most violent inflammation, gangrene, and death.

"3d. That we should reject every form of its exhibition, in which it is not completely diffused throughout the vehicle in which it is given; such as pills, bolusses, electuaries, emulsions, conserves, &c. from which it may become disengaged in the stomach.

"4th. That its solution in sulphuric ether with the addition of a small proportion of aromatic oil, appears to be the best form for its exhibition.

"5th. That phosphorus exhibited in this form loses its caustic quality, and becomes simply an analeptic and a stimulant.

"6th. That much caution is necessary in the exhibition of this remedy, and it should therefore be confined to judicious hands.

"7th. That it should always be given in small doses in the beginning, and its quantity increased, according to circumstances, and its use gradually relinquished.

"8th. That it is not to be regarded as an universal panacea, capable of curing all inveterate diseases.

"9th. That it need not be used until ordinary means have been tried.

"10th. That its good effects are confined to asthenic diseases, chronic agues, in which its action is momentary, but very intense.

"11th. That the diseases in which it has been unsuccessful are, typhus fevers, with extreme prostration of vital energy; and in cases of complicated disorders; in obstinate intermittent fevers, rheumatism, gout, chlorosis and dropsy; and particularly in nervous disorders: such as apoplexy, syncopy, paralysis, convulsions, epilepsy, mania, obstinate head-ache, gutta serena, cardialgia.

"12th. Finally, phosphorus is found to be useful in cases of loss of blood, with diminution of strength, in marasmus, phthisis, and caries of the bones." p. 105, 6, 7.

Medical and Philosophical Intelligence.

FOREIGN.

ANATOMY AND PHYSIOLOGY.

M. MAGENDIE *on the Insensibility of the Nerves of the Senses.*—This celebrated physiologist has ascertained by several experiments, that the peculiar nerves of the senses are less sensible than is usually supposed. In operating for cataract on a woman, he accidentally touched the retina with the instrument, but she manifested no sensation. He afterwards touched the retina of both eyes, so as to produce the same result, in the most satisfactory manner.

MR. WILTBANK *on the Action of the Heart.*—From several experiments made upon animals to ascertain some disputed points relative to the heart, Mr. Wiltbank concludes—

"That contrary to the theory of Le Gallios, the action of the heart, and so much of the circulation of the blood as depends upon the action of the heart, are completely independent of the whole source of nervous power; and having gone thus far, we can, in my opinion, have no difficulty in assigning to the heart the proper cause of its action. This is, without the least shadow of doubt in my own, and I think in every ingenuous mind, the vis insita of Haller. It is by this theory alone, that we are enabled to explain the cause of the action and propulsive power of the heart, after the destruction of the brain and medulla spinalis; and even after the removal of the heart from the body. In vain may the adversaries of the vis insita attempt to explain these facts, or confirm them to any other theory. The whole of the difficulties raised against the theory of Haller since his time, have been reduced by Le Gallios to four; these are, 1st, Why does the heart receive nerves? 2d, Why is it influenced by the passions? 3d, Why is it not subjected to the will? 4th, Why does the circulation continue in acephalpus and decapitated animals?

"Let us first observe Le Gallois' explanations of these objections. 'The heart,' says he, 'receives nerves, and is eminently subject to the passions, because it is animated by the whole of the spinal marrow. It does not obey

the will, because none of the organs which are under the influence of the whole nervous power are subject to it. In fine, the circulation continues in acephalous and decapitated animals, because the motions of the heart do not depend on the brain, or only depend on it in a secondary way.'

"To say nothing of the confusion left on the subject by this explanation, let me ask the explanation of one fact, the truth of which Le Gallois himself admits. Why have children been born alive without either brain or spinal marrow? While this question, as heretofore, remains unanswered, there is a death-blow to the theory of Le Gallois, which it never can survive. By the late views and discoveries of Messrs. Magendie and Bell, we are enabled, in a very satisfactory manner, to explain these hitherto inexplicable difficulties. By these gentlemen, the nerves are divided into those of sensation, and those of volition; and these are distinct from each other. Now the nerves of the heart are evidently nerves of sensation, and not of volition: hence their use. These nerves also serve to establish a connexion between the heart (which would otherwise be an insulated organ,) and every part of the system; thus we can account for the sympathies that exist best between the heart and the other organs of the body, the influence of the passions upon it, &c. The third and fourth, so far from objections, are more explicable on the vis insita, than on any other theory whatever. It, indeed, appears astonishing that such frivolous objections should be proposed, for the third is immediately removed when we consider that the heart owes its action to an innate principle, and the fourth, that it is completely independent of the whole source of nervous power. When, however, we oppose to these difficulties such, of a contrary nature, as has been done in the course of this essay, the objections to the visa insita all vanish, and it becomes firmly re-established, in defiance of all the efforts of its adversaries."—*Anderson's Quar. Journ.*

Of the Healthy Appearance of the Mucous Surface of the Digestive Organs. By M. Billard, M. D. &c.—The conclusion which M. Billard deduces from his observations on this subject are the following:

1st. The internal surface of the intestines offers certain differences of appearance, according to the age of the individual, and according as it may be examined during or after digestion; but these differences are only modifications of the colour, and of the natural texture of the membrane.

2d. The mucous surface is of a beautiful rose-colour in the fœtus, of a milky whiteness in early age, and of an ash colour, or greyish white in the adult and advanced age.

3d. In individuals who have died during digestion, the mucous coat of the stomach and duodenum, and the commencement of the jejunum, is almost always slightly rose-coloured.

4th. It may be said, as a general result, that the mucous coat of the di-

gestive canal is, when healthy, of a whitish colour, or white approaching to an ash-colour

5th. The mucous membrane of the stomach never presents a morbid aspect in health, nor black or dark-coloured spots.

6th. The muciparous glands are either not apparent, or are so in very small numbers, at the internal surface of the stomach and intestines.

7th. These glands may be naturally developed in considerable number, without the health being injured.—*De la Membrane Muqueuse Gastro-Intestinale, dans l'etat sain et dans l'etat inflammatoire, &c.* 8vo. p. 564, *Paris*, 1825.—*Lond. Med. Repos.*

PATHOLOGY AND THERAPEUTICS.

Dr. Brandreth's Case of Hydrophobia.—John Threlfall, aged eighteen, of a strong healthy constitution, was bit in November on the finger by a dog known to be rabid, which after bit a man who died of hydrophobia the succeeding spring. He was seized on Wednesday the 13th October, nearly eleven months after he was bit, with the dreadful symptoms.

On the morning of Friday, says Dr. Brandreth, he was suffering under violent and incessant spasms of the diaphragm and stomach; continued but ineffectual attempts to vomit: occasionally spitting out, with extreme agitation, a little frothy saliva. He endeavoured to strike every one that came near him; but requested his father and brother to hold his hand that he might not injure them. In a short time he became quieted, but expressed great anxiety at any person passing or moving near him. His pulse at the wrist was quite imperceptible, but the action of the heart very violent, and so rapid as not to be counted; the lower jaw was fixed upon the breast, and the expression of the countenance was indescribably horrid. It was the opinion of every one present, that a very short time must terminate his sufferings. It was agreed, however, to inject the acetate of morphia, into the veins, as recommended by Dr. Booth; and the detail of the case will show the effects produced by it.

At 2 o'clock, 24 minims were injected with a little warm water into the orifice which had been made when he was bled in the morning. This was accomplished with much difficulty, as he became again very violent, and it was necessary to restrain him by absolute force. In a few minutes he was more composed, and told his father he should live a little longer. His pulse became distinct, 140, and the action of the heart had considerably diminished.

At 20 and 50 minutes past 2, the same injection was repeated, which he allowed to be done without opposition; the pulse was now 120, and tolerably firm. Some brandy and water was injected into his mouth with a syringe, but he threw it out with great force. He continued frequently spitting, but endeavoured not to hit any body with it. He now showed his

tongue without difficulty, which was excessively dry, and a little furred, and he spoke and answered some questions that were put to him.

At 15 minutes past 3, two moxas were applied over the stomach; he remained perfectly quiet during the time they were burning, and said he felt relieved.

45 minutes past 3, 30 drops were injected. He now eat some bread and butter without difficulty, and attempted to drink some ale, when the convulsions were renewed as soon as the glass was in his hand; but in a few minutes he took a spoonful with great exertion. The pulse was 140, and distinct; his countenance seemed much improved; he conversed with apparent ease. Pouring water into a basin produced no uneasiness; and when some was splashed on the floor, he merely raised himself to look at it. He complained that his throat was dry, and he had nothing to spit out.

20 minutes past 4.—Rational and composed; pulse 150, and very weak.

40 minutes past 4.—Two more moxas were applied, which appeared to give relief; the action of the heart was moderate, pulse 120; he talked a good deal in a collected manner, and was not at all affected by persons sitting on the bed, or walking about the room.

30 minutes past 5.—Injected a pint of warm water into the vein; the pulse was 90, distinct, and the action of the heart natural.

30 minutes past 6.—30 minims of the acetate were injected: soon after the pulse was 100; the tongue moist and clean; he showed it without difficulty; but had occasionally slight startings. At this time he appeared so much relieved, that some of the gentlemen began to entertain hopes of a favourable result. He continued in this state for an hour, when the pulse became gradually feeble and slow; and when he endeavoured to put his tongue out, it was twisted round in such a manner as to show the under surface.

8 o'clock.—The pulse was imperceptible, and he was bedewed with clammy perspiration. Another injection of ℥viii. of warm water was had recourse to. There was a considerable quantity of air distinctly felt in the cellular substance about the chest; he made frequent violent attempts to vomit; the teeth were firmly fixed together; and at half-past eight the countenance became of a leaden hue, and he died in a strong convulsion. The body was examined at 7 o'clock of the following morning, ten hours after death.

Dissection.—The vessels of the dura mater were gorged with blood; the longitudinal sinus was full of dark blood, mixed with globules of air; the ventricles contained half an ounce of fluid; the brain was very firm, and studded with numerous red points; the choroid plexus unusually turgid; the cerebellum was remarkably vascular, and part of the cineritious substance in a pulpy state. The blood was coagulated in the lateral sinuses, but not in the longitudinal. On lowering the head, a considerable quantity of fluid escaped from the spinal column. On opening the integuments

of the throat, the cellular membrane was found distended with air, which was ascertained, by inflating the lungs, not to proceed from them. The small intestines were quite blown up with air, and exhibited marks of incipient inflammation on their entire surface. The omentum and colon were quite out of sight, and the latter so knotted and small, as in many places to be incapable of admitting the little finger. The upper and outer surface of the stomach was healthy; but upon lifting it up, a large perforation was discovered, capable of admitting the closed hand, from which a clear-coloured fluid had escaped into the abdomen. The pericardium contained ℥ss. of fluid, and was highly vascular. The right auricle and ventricle were distended with coagula, and the left entirely empty. The cellular and adipose membrane surrounding the aorta contained air. The lungs, liver, diaphragm, kidneys, and bladder, were perfectly healthy. The whole pharynx and trachea were highly inflamed, and the back of the throat was covered with bloody and frothy mucus. The lower part of the œsophagus was deprived of its mucous membrane. The stomach, in general, exhibited considerable marks of disease, and there were many extensive spots of extravasated blood between the coats.—*Edinburgh Med. and Surg. Jour.*

Dr. Renwick's Case of Hydrophobia.—John Duckworth, aged fifteen, was bitten by a dog about a month before he was seized. He was blooded to some extent, had first mercury with opium, and then solution of superacetate of lead, twenty drops on sugar every hour, according to the plan of Dr. Fayerman of Norwich. This, however, produced no visible amendment, and he died.

Dissection.—Twenty-one hours after death, by Mr. Halton, in the presence of Drs. Renwick and Jeffreys, Mr. M'Donald, Mr. Jeffrey, Mr. Wilkinson, Mr. Reynolds, and others.

Examination of the head.—Upon dissecting back the scalp, it did not exhibit any undue degree of vascularity. The inner surface of the calvaria was turgid with blood. The dura mater presented a general scarlet blush, and upon raising it from the surface of the tunica arachnoidea, a preternatural adhesion was observed parallel to the course of the longitudinal sinus, upon the left hemisphere of the cerebrum.

The tunica arachnoidea was observed to be opaque in patches, but this appearance was not general. There was not any effusion beneath it, between it and the pia mater.

The pia mater manifested a great degree of vascularity; a general vivid redness pervaded its whole surface. The vessels upon the surface of the cerebrum were gorged with blood.

Several horizontal sections of the substance of the cerebrum, displaying its medullary structure, exposed numerous bloody points, from which blood afterwards oozed; in fact, the substance of the cerebrum appeared in-

jected with blood. Nothing remarkable was observed in the lateral ventricles, nor was there any deviation from the usual appearance in the plexus choroides of each side, or the velum interpositum connecting them. In the comissura mollis, no deviation from its usual consistency was noticed. The pia mater investing the cerebellum was very vascular, but the substance of the cerebellum did not partake of the vascularity; its consistence was softer than usual. The medulla oblongata was natural, the theca vertebralis was very vascular. The bones of the skull were remarkably thin.

Examination of the Neck, &c.—The par vagum, carotid artery, and descendens noni were exposed, and no deviation from the natural appearance was observed. The cervical nerves were next examined, but the vascularity so strikingly evident in a former case, (as published by Dr. Brandreth in the last Edinburgh Medical and Surgical Journal, at the dissection of which I assisted,) could not in the least degree be traced, nor did the deep or superficial nerves in the vicinity of the cicatrix manifest any blush. No appearance of inflamed absorbents could be traced. As moxas had been applied to the cicatrices, and had taken deep effect, nothing could be distinguished beneath them.

Examination of the Pharynx, &c.—The mouth, fauces, and pharynx were free from inflammation. The œsophagus did not present any unusual appearance until it approached the cardia, where there were considerable marks of inflammation, and some spots of extravasation. The inflammation extended into the stomach for some way surrounding the cardiac orifice, and the extravasation was arranged in a curious speckled manner. Upon laying open the stomach, the inflammation and extravasation were not general over its mucous surface, but confined to the neighbourhood of the cardia. No aliment was found within it. The liver and spleen were healthy. The kidneys were remarked to be very vascular. The intestines were healthy with the exception of the ileum, which was found inflamed upon its inner surface, about six or eight inches from its termination in the cœcum, and within it there was a secretion resembling bird-lime in tenacity and colour. The exterior of the intestines in the vicinity exhibited a slight blush of inflammation.

Examination of the Larynx, &c.—The larynx was natural in appearance. The trachea presented a slight blush of inflammation upon its inner surface at the lower part. The right lung was healthy. A number of firm adhesions were found in the right cavity of the chest. Upon the left side no adhesions were observed, but a considerable effusion of serum was noticed in the bag of the pleura. The pleura costalis of this side was inflamed; the pleura pulmonalis upon the upper and back part of the left lung was also inflamed, and the substance of the lung congested with blood. The heart and pericardium were healthy; but more than the usual quantity of serum was found in the bag of the pericardium.

As in the case of Mr. N., the inflamed appearance of the nerves led to the examination of the spinal column: not observing any thing peculiar in the nerves of the neck in this dissection, it was not considered important to expose either the spinal marrow or the nerves within the pelvis.—*Lancet.*

Various Morbid Alterations in new-born Infants.—N. Bricheteau lately read, to the Academie Royale de Medicine, a report on the work of Dr. Vernon, containing three cases, in which the fœtus had been affected with inflammations, similar to those which affect the adult. In one of these, a child, which only lived twelve or fifteen hours, the post-mortem examination led to the discovery of a pleurisy,—viz. effusion of purulent fluid in the thorax, formation of false membrane on the pleura, redness and injection of vessels. In the second, the infant presented traces of peritonitis; and in the third there had been inflammation of the thymous gland, with the formation of pus in the interior of that organ. M. Bricheteau added other facts to those of M. Vernon: for example, he quoted instances in which children were born with small-pox; a circumstance confirmed by the experience of various other members of the Academy. M. Desormeaux gave the history of a child who was born with every symptom of an intense enteritis of long standing, and which was cured. M. Hussan lately opened, at the Hôtel Dieu, the bodies of two infants,—one born dead at the seventh month, the other which lived only eight days,—both of which had tubercles, already softened, and in a state of suppuration: the former in the lungs, although the mother was in good health; the latter in the liver. MM. Dupuy and Andral mentioned having found tubercles in the fœtuses of some of the lower animals; and M. Andral, in opening the body of a woman who died of phthisis, found the supra-renal capsules of the fœtus inflamed and suppurated.—*Lond. Med. and Phys. Jour.*

Treatment of Cynanche Trachealis.—The general symptoms of *croup*, the extreme danger of the disease, the frequent inefficacy even of the most active and best-directed treatment, and the striking appearances on dissection, are familiar to every practitioner. There is one fact, however, in the history of this disease, which has not as yet been noticed by authors on the subject; and one means of treatment, which has been repeatedly successful in my own hands, and in the hands of those from whom I first received my information of its utility, which, I have reason to believe has not come into general use.

The fact to which I refer is, that the exudation of *fibrin* very frequently commences on the surface of the *tonsils*, thence spreads along the arches of the palate, coats the posterior surface of the velum palati, sometimes surrounds and encloses the uvula; and at last descending, covers the internal surface of the pharynx and œsophagus, the larynx and trachea. That this is the frequent progress of the fibrinous exudation I am convinced, from

the careful and repeated observation of the phenomena during life and upon dissection.

What is of much more importance, however, than the observation of a pathological fact, is the ascertained efficacy of a means of cure for this disease. Not merely have I repeatedly found the application of a solution of *nitrate of silver* completely successful in removing the fibrinous crust covering the tonsils, velum, and uvula, but I have been led to attribute the rapid alleviation and ultimate removal of all other symptoms to this remedy; even in cases in which, from the severity and peculiar signs of the complaint, I had no doubt that fibrin had already exuded from the lining membrane of the larynx and trachea.

The solution which I employ is *a scruple* of nitrate of silver in an ounce of distilled water. By means of a large camel-hair pencil, this solution is to be freely applied once or twice a day, according to the severity of the symptoms, to the whole lining membranes of the fauces. The surface of the tonsils, or wherever else the fibrinous crust is actually in view, will, of course, be particularly attended to; but I do not hesitate to push the pencil to the lower part of the pharynx.

This remedy, so far from being productive of any irritation, beyond the mere mechanical and temporary one attending its employment, uniformly alleviates the symptoms of croup; such as the difficult respiration, the barking cough, and the peculiar anxiety of the little patient. It has evidently such an effect upon the diseased surfaces, both those which it actually touches, and those which are continuous, as to induce them to throw off the false membrane by which they are covered, and, it appears, also to prevent the further progress of the exudation.—*W. Mackenzie, And. Prof. Anat. and Surg. at Glasgow, in the Edin. Med. Journ., Ap.* 1825.

Tympanites Pericardii, Case of.—Mr. Scott, of the Haymarket, aged about forty-seven, had, for three or four years been declining in health, but had not been under regular medical superintendence, till a few weeks before his decease: no regular history of the complaint, therefore, could be obtained. He stated, however, that his appetite and strength had gradually declined, but his chief complaint was a fluttering, a palpitation, and a sense of anxiety about the region of the heart, with disturbed sleep and frightful dreams.

When seen a few weeks before death, his countenance was like that of a person in a state of anæmia, except that there was also a chloritic tinge in the skin; the pulse was full, quick, and irregular; there was a tendency to œdema about the ankles; the appetite was almost entirely gone, and the patient felt approaches to syncope on using any exertion, or ascending stairs. His mind was desponding, and temper irritable; the motions from his bowels were perfectly healthy; the chest in every part resounded remarkably well, and, in the region of the heart, *percussion* elicited as clear

a sound as in any other part; the *impulse* of the heart against the ribs was very feeble, and scarcely audible; it was also irregular, in correspondence with the state of the pulse.

The patient died suddenly in February last, and the following appearances are recorded by Dr. Johnson, as having been observed on examination after death; he was himself present.

The body extenuated, but still there was some peculiarly yellow fat on the chest and abdomen; the muscles, though wasted, were of a vivid red colour; all the organs in the abdomen were sound; on opening the chest, the lungs presented a beautiful blue appearance, sparingly mottled with white; they were very sound. Between the lungs there presented itself a pellucid membrane distended with air. This was found to be the *pericardium*, reduced to a most extraordinary degree of tensity, and distended with a considerable quantity of *air*. The heart was small, not half filling the pericardium, and extremely degenerated in substance; a great part of its muscular structure being converted into a kind of fat; the whole was so lacerable, as scarcely to bear handling; the parietes of the left ventricle were not more than a quarter of an inch in thickness; the internal surfaces of the cavities were pale, wasted, and not containing a single drop of blood; neither was any blood to be seen in the large vessels issuing from the heart; there was nothing particular in the vascular structure of this organ.

Dr. Johnson adds, "That he has met with several cases where the heart was in this degenerated condition, but never before observed *such a distension of the pericardium by air*, that it is quite evident, from the size of the pericardium, and its extreme tensity, that this collection of air must have been of some standing, and that this phenomenon accounts for the region of the heart being as sonorous as any other part of the chest, which is not usually the case."—*Med. Chir. Rev. Ap.* 1825, p. 465.

Note.—This report is highly interesting on account of the rarity of the disease to which it relates; so rare, indeed, that Morgagni says he never saw an example of it, and Dr. Baillie seems to have been equally unfortunate.

Case of Phlegmasia Dolens. By Dr. Davis.—W. J. W., a medical gentleman, was attacked in the right thigh and leg by phlegmasia dolens, on the 10th of February, 1825, whilst suffering in the last stage of phthisis pulmonalis. He had, at this time, been confined upwards of eleven months with this latter disease, and his pulse was then very rapid, and the hectic flushings strikingly marked. The phlegmasia dolens became perfectly characterised: the whole limb was uniformiy enlarged, and extremely painful to Poupart's ligament; it had a dull white appearance, and exhibited no indentation from pressure. The patient was attended by Dr. Williams and Dr. Stour Pennington.

Lint, saturated with warm water, was applied over the whole limb, which was therefore encased with fine oil-skin: these means gave the patient considerable ease, but produced no apparent alteration of the disorder. The left leg was somewhat swollen, and slightly plainful a few days before the patient's death.

Appearance on dissection.—The abdominal cavity having been laid open, the right common internal and external iliac veins seemed unusually prominent, and appeared to the touch of a firm consistence, like chord. Upon opening these veins, they were found to be filled with layers of coagulable lymph, so as to render them completely impervious. This state of disease was traced as far as the upper part of the femoral vein. The corresponding arteries were healthy. The lymphatics were not examined. The vessels on the left side of the pelvis were quite pervious and natural.—*Ibid.*

OBSTETRICS.

Uterus, Laceration of, in Parturition.—In the years 1819-20-21, 8600 patients were delivered in the Lying-in Hospital of Dublin, and of this number *twenty* suffered *laceration of the uterus.*

Of these twenty cases, *five* occurred in women parturient with *female* children, and *fifteen* in women parturient with *male* children. The *sex* of the infants, therefore, would seem to have a considerable influence in the production of this accident—a circumstance doubtless connected with the greater *size of the head* in the generality of *male* infants.

Thus, of sixty *male* and sixty *female* infants, born at full time, and examined by Dr. Clarke, the averaged circumference of the *head* in the former was found to be *fourteen* inches, and in the latter only *thirteen and five-eights;* and of one hundred and twenty infants examined by the same physician, the circumference of the head exceeded *fourteen inches and a half* in six only, all of whom where *males.*

From examination after death, it would appear that the *neck* of the uterus is the part most frequently lacerated, and that the rent is generally in a transverse direction.—*M'Keever in Lond. Med. Repos.*

Case of Cæsarian Operation—By Dr. Schonberg, of Naples.—Elizabeth Hugh, twenty-eight years of age, of very short stature, and when a child affected with rickets, had for several years past been subject to very severe attacks of convulsions, and on the 7th of August, 1823, towards the end of her first pregnancy, labour-pains came on. At the same time she was seized with convulsions, which resisted every means I could try, and continued for thirteen or fourteen hours, wherefore I determined on delivering the woman. On a close examination, I found that the mouth of the womb was dilated, that the waters had escaped, and the head of the child was foremost, but that the pelvis between the rami of the ischiæ and pubes was extremely narrow, not more than two inches in width. Under these

circumstances, I called in a physician-accoucheur, who found the woman in this state, but had not an opportunity of ascertaining if the child was alive or not; a circumstance which was to decide whether we should have recourse to the Cæsarian operation, or the perforation of the head of the child. In consequence of the uncertainty whether the child was alive or not, and the frequency of the labour-pains, we determined to wait till the following morning. August 8th.—The woman rested the whole of the night, and this morning felt considerably refreshed. In our examinations we could distinctly feel the motions of the child, which lay with the face foremost, and thus we decided on the Cæsarian operation, which was performed at two in the afternoon by H. Leuch, one of the surgeons to the hospital. An incision was made in the course of the linea alba, from about an inch below the naval to the pubes, and with a second the uterus was opened when in a state of contraction, a labour-pain having occurred at this step of the operation. The fingers were then introduced, the opening in the uterus enlarged, and the placenta detached. The membranes were now ruptured, and the child in part removed from the womb; but just as the head was about to be withdrawn, the uterus contracted round the neck of the child, and it was with some difficulty that the head could be extricated. The intestines now fell forwards, and were obliged to be kept back by an assistant; the placenta was then withdrawn, but no arteries were secured as the bleeding was very slight. The uterus was rendered as clean as possible, all the coagula being removed, and the parts were placed in their natural position. The integuments were kept together by means of sutures, and trips of adhesive plaster; and over these, compresses and a broad bandage were applied.

The child, when removed, was alive, since it moved, and made continued efforts, during half an hour, to breathe: but notwithstanding all our efforts, it shortly died. The woman went on remarkably well; the lochial discharge appeared in the usual quantity; and, in forty-eight days from the operation, she was perfectly well.—*Ibid.*

MATERIA MEDICA.

Euphorbia Lathyris—The Expressed Oil, a mild and active Purgative.—The Euphorbia lathyris, or *caper spurge*, is a native of the south of Europe, and was first introduced into our gardens, where it is now not uncommon, about two centuries ago. It is naturalized somewhere in Bedfordshire, and in most old herb gardens—it flowers in may and June.

From the *seeds* of this plant our oil is obtained by expression, which has lately been proposed as a substitute for the Croton oil, by Dr. Calderini of Milan, who states, that in purgative power it is little inferior to the latter; and that it is preferable in this respect, that its exhibition is not attended by any of those unpleasant symptoms which the acrid and irritating qualities of the Croton oil are so apt to occasion.

When filtered, this oil is, in appearance, very similar to castor oil—it is

inodorous, limpid, and neither acrid nor disagreeable to the taste. By long keeping, however, or by exposure to heat, it becomes turbid, dark-coloured, acrid, and afterwards rancid. It burns with a clear flame without smoke, is insoluble in alcohol, and forms a soap with alkalis.

For an adult, the dose is from four to eight drops, which may be given in an emulsion, or in any other convenient vehicle—its action upon the bowels is certain, strong, and prompt; but at the same time mild, for it neither occasions vomiting, tenesmus or pain—unless, indeed, it be in a rancid state, when it becomes drastic, and produces griping.

The application of this plant to medical uses is not new; from Mathiolus, who wrote in 1562, we learn that, in his time it was commonly known in the shops by the name of cataputia, and it is particularly noticed by Gerarde in 1636.

Dioscorides and Galen also are supposed to have mentioned it, as have various other writers, all of whom, however, agree in speaking of it as a very violent purgative, contrary to what he would be led to believe from the statement of Dr. Calderini. This apparent discrepancy arises, in all probability, from this circumstance, that the *entire seeds* were formerly used, and not the *oil* simply, as now recommended.

We may add, that the details given by Dr. Calderini are stated to have been lately confirmed in France, which will, we trust, be a sufficient inducement to the profession in England to give this remedy a speedy trial. The plant is figured in Smith and Sowerby's English Botany, tab. 2255—in Gerarde's Herball, page 503, fig. 18; and in Hill's British Herball, pl. 22.—*London Medical Repository.*

MEDICAL JURISPRUDENCE.

M. Lassaigne's Mode of Detecting Spots of Blood.—From several experiments on this subject, M. Lassaigne concludes—1. That it is easy to distinguish, chemically, the rust produced by blood upon iron or steel instruments, from ordinary rust. 2. That the spots produced by blood upon different tissues, may always be distinguished, even after the lapse of a considerable time. 3. That the application of these means may be useful on many occasions, where it is necessary for the ends of justice. We subjoin one of his methods of treating the rust, the whole paper being too long for insertion in this place.—A small quantity of rust is to be placed in a glass tube, closed at one end, about an inch and a half long, and three lines in diameter, with one or two grammes of distilled water; by slightly agitating the mixture, the albumen, a portion of the colouring matter, and all the salts are re-dissolved; when, upon allowing it to rest, the rust is precipitated. It becomes thick by agitation in the air; it re-converts reddened turnsole into a blue colour; it is coagulated by heat and acids; and by evaporating and calcining the residue in a platina spoon, chloride of sodium, sub-carbonate of soda, and phosphate of lime are obtained.—*Anderson's Quarterly Journal.*

Corpora Lutea, in the ovarium of a child, aged only five years.—It was long imagined that the presence of a *corpus luteum* in one of the ovaria was a demonstrative proof of *impregnation* having previously taken place in the subject to which it belonged. Of late years, however, it has been shown, in the most satisfactory manner, that this opinion is erroneous, and these *marks* or *bodies*, as they are called, have since been attributed to sexual intercourse, or at least to sexual excitement or desire.

Mr. Dunlop, however, mentions a recent instance which shows that this opinion also is unfounded, and that *corpora lutea* may be formed in cases where neither intercourse, nor passion, nor excitement of any kind, could have had place. Dr. Mackintosh, lecturer on midwifery in Edinburgh, he says, has in his museum a preparation taken from the body of a child, which he, in company with Dr. J. Scott, dissected at Piershill Barracks, near Edinburgh.

This child died, it appears, of tubercular disease in the lungs, when not above five years of age. On examination, the *hymen* was found entire, and in the ovaria were numerous *corpora lutea*, as distinct as in the adult impregnated female.—*Lond. Med. Repos.*

DOMESTIC.

We give place to the following article from our friend Dr. Pascalis, not merely because it contains some account of an interesting work recently published, but because we consider it an act of justice to the distinguished writer, to afford him a fair opportunity of publicly vindicating his claim to originality in relation to some of the theoretical doctrines contained in the work of M. Dariste.—Ed.

Examination of a work entitled, *Recherches pratiques sur la Fievre Jaune* par A. J. Dariste, D. M., of the Royal Academies of Paris, &c.

Respectfully presented to the Director, Sr. Dr. DON JOSE MARIA VARO, to the President, Vice President, Secretaries, and members of the Academy of Practical Medicine of Mexico, by their most obedient and much honoured fellow-corresponding member,

Felix Pascalis.

This work marks an epoch of liberal sentiments among distinguished controversialists, on various questions relative to yellow fever, in the Royal Academy of Medicine of Paris, which highly honours the merit and importance of the labours of the author; there are many seats filled by influential gentlemen, who now subscribe to the opinions he professes, which they had heretofore opposed and rejected. This triumph is no doubt graciously and conscientiously granted, because Mons. Dariste has not only shown himself deeply instructed by facts and experience, but he has also made great advances towards the knowledge of the mysterious causes and nature of one of the most afflicting scourges of human life.

Another remark I beg here to introduce, is that in the still existing controversy of the contagious attribute of yellow fever, the opponents possess the fairest and most productive side of the question; in it, they always have some nice points to elucidate, and some discovery to make, which lead us by degrees to an abundant field of medical and philosophical acquisitions. The contagionists, on the contrary, are on the worst side. Nobody could yet improve upon Chisholm, Gilbert Blane, nor upon Hosack, much less upon Moreau de Jonnés; these eminent writers have given at once all that could be said, and their way to some clearer and more intelligible solution of difficulties, seem for ever sealed up, unless they would perchance change their own ground.

The plain account that can be given of Mons. Dariste is, that with a clear and sound mind, and without the help of classical and literary ornaments, he would give us a candid exposition of the motives which have induced him to publish the results of thirty years' practice in the island of Martinico, than which no theatre could better afford him practical opportunity. He did early mistrust that medical instruction on epidemic diseases from old records, mostly written and dictated by prejudice, by terror, and by incorrect observation; thereby he was soon able to detect many errors, principally those of a government, which in certain matters of science, has been very apt to confuse or retard their most useful progress. He therefore gives us a good exposé of the ancient and recent epidemics, of yellow fever in Europe and America, paying at the same time a due respect to the names of those whom he thinks have usefully contributed to allay, or prevent the frequent recurrence of the occidental pestilence.

The *practical researches* of Mons. Dariste, are divided into six memoirs; the first of which relates only to the yellow fever in the West India islands. It never was imported there from any part of the world: its most ancient ravages there, took place among the Europeans only, and in proportion to their great or ordinary concourse. The natives are not susceptible of its attacks, although it is congenial to their climate, yet during warm seasons, it may be formed in different ports or cities of North and South America; neither is this congeniality, exclusive of the meridional ports of Europe, of the peninsula of Spain, at least; sanitary restrictions do not appear to be preservative against the yellow fever, and without them it does not extend beyond the focus from which it is derived. Dread, fear, terror, and despondency of mind, never fail to make it more fatal amongst strangers.

The *second* memoir relates to the etiology of the yellow fever, concerning its causes and its modes of propagation. These are four in number, and each of them indispensable: 1st, the heat of the season; 2d, a peculiar atmospheric disposition, unknown and occult; 3d, the unhealthy condition of places; 4th, the idiosyncrasy of subjects.

From the third disposition required for the formation of the yellow fever, Mons. Dariste argues against the contagionists, as we have done in this country, where attempts have been made to establish their doctrine, according to the healthy or unhealthy condition of lands and places. That argument is false, says he, which derives an attribute of that disease from the cause which creates it. The yellow fever is never created in pure air; and if brought to it, it will immediately be checked. The idiosyncrasy or unsusceptibility of individuals, is also a direct argument against contagion. It cannot be proved in physiology, that an animal poison ever ceases to be so in any individual of the same species: if so, it cannot be called a virulent absorbable contagion. The facts adduced in proof, and collected throughout the West India islands, and from the uninterrupted commerce with their mother countries during many ages, are new and convincingly striking.

The *third* memoir, is an instructive collection of facts and cases, applicable to various appearances and characters of the disease; but the *fourth* memoir treats principally of the *Diagnosis*, in relation to the black vomit, and hæmorrhage. Of this, the Academic Report contains a more particular exposition. Considering, indeed, the subject independently of the views or hypothesis with which the author connects it, it forms a series of facts in pathology, which must guide intelligent observers to the discovery of the true cause or nature of the yellow fever.

I will only translate several propositions of Mons Dariste.

Its proximate agency is manifested by immediately disturbing the circulation of the capillary vessels, and causing their congestion and echymoses. p. 116. In yellow fever, the whole mass of blood is altered; that fluid no longer retains its colour nor its attributes, and that portion which circulates differs only from that which stagnates in the capillaries, by being less black, and less carbonized.—p. 127. The blood of patients with the yellow fever, accumulated in the capillaries, is black and carbonized; and that quality is more strongly marked, as the disease is more intense, and of a more rapid march. The experiments of the immortal Bichat, have shown, that the blood remains black until it is carried into the lungs, where, by a chemical operation in that organ, it assumes a red colour, which is indispensable for life; a suspended respiration therefore renders it black; then it carries death instead of life, into our organs. When the yellow fever brings a greater determination into the apparatus of respiration, the black colour of the blood is more intense, and its progress more decidedly fatal.—p. 125. The congestion of the capillaries, is evidenced at first by the redness of the conjunctiva, which appear injected, of the face, of the cheeks, of the articulations, and of the mucous membranes, which become of a purple colour in all parts where the capillaries are most apparent.—p. 116. The effusion of black blood in the lungs, and other cavities, as discovered by Autopsia,

clearly proves that there has been an influx of blood from the periphery to the centre ; that the abdominal capillaries have suddenly become turgid, &c.—p. 119. In all such cases, I found the lungs turgid with black blood, without vestiges of inflammation ; it was therefore from the congestion of their capillaries, that death had ensued, as it did in the following cases.—p. 121. All those who die in the yellow fever, breathe with extreme anxiety and difficulty. Their respiration is first *anhelous ;* it soon becomes painful, with snorings and sighings; at last it is stertorous and convulsive.—p. 126. Breathing, among many, appears hard and difficult, and it frequently provokes strong and deep inspirations.—p. 163. When the pulse is sinking, a deadly coolness is diffusing itself through the body ; it commences on the hands, and progresses to the centre ; yet, if the pulse should be revived, that symptom does not take place.—p. 164. On opening the body, we constantly find the stomach, the intestines, and even the bronchiæ, in part filled with clots of black blood.—&c. p. 196.

The *fifth* memoir, on *Symptomatology*, and the last on the *treatment*, are highly interesting and conclusive, according to the method adopted by Mons. Dariste, in establishing three periods or stages of the disease ; 1, Irritation ; 2, Calm ; 3, Termination ; and to the two predominating characters, he assigns to it, of sthenic or asthenic fever. The first division, or indication, he however praises and recommends, as the most likely to be successful. With respect to the various remedies he employs, and his rejection of those that have been approved or tried, I must abstain to make any comment, on the ground he admits himself, " that of having practised only in the island of Martinico."

But I must remark, that in matter of fact, and observation, Mons. Dariste is perfectly master of his subject; and that with a reflecting mind and happy perception, he has been able, in his long medical career, to practise usefully, and gather up for us all, and for future generations, more useful materials than many of his cotemporaries.

Farther I must say, that his book, printed in Paris in 1825, contains many views and theoretical principles, the same with those I had the honour to communicate to the Medical Society of this city, in an address I delivered to them on the 11th of November, 1822, which was published on the 20th of the same month in three successive numbers of the Statesman, edited by Messrs. Carter & Prentiss. One hundred copies of the same were retained in the form of a pamphlet, and by me distributed to my friends, at home and abroad. I do not wish to suppose nor to insinuate, from mere possibilities, that Mons. Dariste has known or read that address. From the complexion of his work, and arrangement of materials, as well as from his honorable and eminent character, I am led firmly to believe that he would have equally associated my name to the best part of his views, just as he did me the honour to associate it with celebrated men in his introduction, had he read the address I alluded to. I therefore acknowledge, that he is the dis-

coverer, in 1825, of a part of the diagnosis of yellow fever, just as I was of the whole in the year 1822. And while I feel it a duty to vindicate as my own both the before-mentioned communication and a more extended manuscript on the subject, intended for publication in the ensuing year, I proudly anticipate the honour of their meeting with the support of a colleague, and one of the best qualified medical writers in our arena.

It is now my task succinctly to give the outlines of my theory, as published; and the points of contact with that of Dr. Dariste, will easily be perceived.

I need not here remind the reader what are my views of the carbonic and hydrogenous specific gas, to which I attribute the specific diagnosis of the yellow fever. This is the peculiar disposition of the atmosphere which he calls an *occult quality;* but I infer that its natural gravity causes it to be retained in the pulmonary cells, where it disturbs and suspends the all-important laws of respiration. These were examined, and namely, that of the *decarbonization* of the blood, of the formation of a pulmonary aqueous vapour, by the departure of hydrogen, which is in quantity equal to that we emit from the cutaneous surfaces, that of the caloric imparted by pure atmospheric air, and that of the hæmethoses, or formation of the blood. All these laws being impaired by the presence of a carbonic and hydrogenous gas in the lungs, I must have concluded that yellow fever, or a protracted asphyxiation, must be the result; thence all that congestion of black blood in the capillaries, that disordered state of respiration, that oozing of black blood and matter, either by exhalation, or by gangrenous scars, that refrigeration of the body, of all which Mons. Dariste gives us a lively picture, and of which I have offered particular details for all viscera in which a lifeless blood abounds, producing congestion, decomposition, echymoses, yellowness, hæmorrhages in the lungs, the stomach, the liver, the kidneys, and even in the brain.

May I be permitted to transcribe the following literal epitome from the above-mentioned address:

"I suppress the details of the successive effects in the human system, from the explained subversion of the laws of respiration, and which exactly constitute the yellow fever. It suffices to notice, that arterial blood deprived of its vitality, affects all organs in which it abounds. The lungs it affects with anhelation; the heart with fulness; the brain with stupefaction, or coma; the stomach with incessant irritation. On the other hand, the same for want of heat and action clogs the capillary and glands, in which it should perform various secretions; tardy and stagnant, it decomposes itself, and suffuses. The skin with a red, then purple, at last yellow colour, a muscular reaction manifested by pain in the limbs, in the head, in the dorsal and abdominal regions, induce at first a paroxysm of fever, which, by accelerating respiration, might restore regular functions; but the eventual prostration and collapse are the signals of a fatal termination, at which

the accumulated carbon of blood is disgorged from the pori biliarii, more frequently from the inner membrane of the stomach and intestines. At this last stage, gangrene or putrefaction commences; for in this like all other pestilential diseases, it is known to precede agony and death."—*Vide Statesman, Nov.* 21, 1822.

I thus rejoice, Gentlemen, in having obtained such a support of my theory, although limited to a part only, as that of Mons. Dariste; and still more so, after he has obtained the sanction and approbation of that high tribunal, the Royal Academy of Medicine of Paris.

Jefferson Medical College.—With much pleasure we give place to the following notice of the organization of a new medical institution in the city of Philadelphia. Personally acquainted with several of the professors, and entertaining a very high respect for their talents and acquirements, we wish them every possible success in their bold and honourable enterprise.

"The Medical Faculty of *Jefferson College* was instituted in June last, by an act of the trustees of that institution, appointing professors to teach the various branches of knowledge comprised in a regular medical education.

"By the same act the faculty of medicine were authorised to locate themselves in any part of the State of Pennsylvania, affording, in their judgment, the greatest facilities for the discharge of the trust committed to them. In these circumstances, the faculty could not long hesitate in selecting Philadelphia, as obviously presenting to the medical student advantages for improvement far greater than could be found in any other part of the State.

"In order to carry into full execution the design of the trustees, a large and convenient building has been procured, and fitted up in a manner as suitable as could be desired for the lectures and demonstrations connected with a complete course of medical instruction.

"The lectures will commence on the Thursday immediately preceding the first Monday in November next, and will continue until the last of February. The commencement, or time of conferring degrees, will be as early in the month of March as the examination of the candidates will admit.

"Those persons will be entitled to a degree, who shall have attended two full courses of lectures in this school, or one course in any other school which has the power of conferring medical degrees, and one in this institution, and who shall have been found qualified for a degree on a suitable examination.

"The fees for attendance on the lectures will be $15, to each professor, for the course. The fee for graduation, $15. No entrance fee or matriculation ticket will be required.

John Eberle, M. D. Prof. Theor. & Pract.
George M'Clellan, M. D. Prof. Surgery.
Jacob Green, A. M. Prof. Chemistry.

B. Rush Rhees, M. D. Prof. Mat. Med.
F. S. Beattie, M. D. Prof. Inst. of Med. and Midwifery.
Nathan R. Smith, M. D. Prof. Anat. & Physiology.
B. Rush Rhees, *Dean of the Medical Faculty.*"

Boylston Prize.—The Boylston premium for the best Essay, on the question, "To what extent has the Vaccine Disease been found to be a preventive of the Small-pox," has been awarded to John Bell, M. D. of New-York, one of the editors of this Journal.

Travers on the Eye.—We are gratified to learn that the republication of this work is in such a state of forwardness, that its appearance may be looked for early in November. The additions by the American editor, Dr. Delafield, will be numerous, and from his known proficiency in ophthalmic practice, it may confidently be anticipated that the general value and interest of the work will be much increased.

QUARTERLY BIBLIOGRAPHICAL NOTICES.

Report of the Committee on Laws, to the Corporation of the city of New-York, on the subject of interments within the populous part of the city. Read and adopted at a special meeting of the said corporation, on the 9th June, 1825, and published by their order. New-York, pp. 76. 1825.

In our last number we took occasion to notice the recent proceedings of our city corporation, in relation to interments, and to express, at the same time, our entire satisfaction with the decision which had been made. The present report, which was drawn forth in the course of those proceedings, may be looked upon as a summary of the facts and arguments which led to that decision, and as such, it is a document entitled to the respectful consideration of every member of our community. Written as it is by extra professional men, it is not at all surprising that some parts of the report should be liable to exceptions. The general scope of its reasoning is however unanswerable, and until something more formidable than we have seen urged against it shall appear, the corporation must stand fully justified in the eye both of reason and humanity.

On the Surgical Anatomy of the Groin, as connected with Hernia of the Abdomen. By Alexander F. Vache, of New-York New-York, pp. 52. 1825.

Inaugural dissertation.

Typhus Syncopalis, sinking Typhus, or the spotted fever of New-England, as it appeared in the epidemic of 1823, *in Middletown, Connecticut.* By Thomas Miner, M. D. Middletown, (Conn.) pp. 32. 1825.

An Inaugural Address delivered before the Medical Society of the county of New-York, on the 8th day of August, 1825. By JOHN ONDERDONK, President of the Society. New-York, pp. 24. 1825.

The principal subject adverted to in this address, by the venerable president, is the importance of a religious character to the profession. What there is of the address is so just and pertinent, that our only regret is that it is so concise. We congratulate the society upon enjoying the services of an efficient president, whose moral and professional standing, no less than his years, entitle him to their undivided respect.

Remarks on the disorders of literary men, or an inquiry into the means of preventing the evils usually incident to sedentary and studious habits. Boston, pp. 92. 1825.

A sensible interesting little work, well worthy the perusal of literary men.

Elements of Phrenology. By CHARLES CALDWELL, M. D. Professor of the Institutes of Medicine and Clinical Practice, in Transylvania University. Lexington, Kentucky, pp. 100. 1824.

Journal Medical de la Gironde. Juillet, 1825. Bourdeaux. In exchange.

Litterarische Annalen der gesammten Heilkunde, herausgegeben von Prof. JUSTUS FRIEDRICH CARL HECKER. Berlin, 2 Nos. 1825.

The Annals of Medicine, of which we have received the two first numbers, is a new work commenced by Professor Hecker, assisted by several eminent German Professors and physicians. It promises to be an exceedingly valuable repository of knowledge, and we accept with pleasure the proposal for an exchange.

Practical elucidation of the Nature of Hernia, together with some remarks on the unfit instruments hitherto used for its confinement, with an explanation of the experienced utility and effectual cures of the instrument now recommended. By G. A. HULL, M. D. late President of the Oneida Medical Society. New-York, pp. 23. 1824.

We take some share of reproach to ourselves for not having before this noticed the very great improvements made by Dr. Hull in the construction of trusses. The truth is, it is only recently that our attention was particularly directed to the subject; and we were surprised to find how vastly superior the invention of Dr. Hull was to any instrument of the kind which had heretofore come within our knowledge. The principle on which it is constructed, appears to us to be equally just and original; and the very gratifying success which has attended its application, abundantly confirms the soundness of the theoretical principles by which it was suggested. For the purpose of rendering the improvements in the truss of Dr. H. intelligent to our readers, we shall make a few extracts from his pamphlet.

"The qualities we have united in the Truss, are equally applicable to every species of Hernia, and we can say, without the fear of contradiction,

that the proportion of cures it has effected is altogether unparalleled. It may, perhaps, be an interesting inquiry to some, how this instrument produces its effects; and we think, after considering its construction, this question can be answered to the satisfaction of every rational mind. It will be observed, that this Truss presents a concave surface to the rupture opening. The concavity of the plate is occupied by an elastic cushion, the resistance of which is sufficient to reduce the protruding intestine while it is prevented escaping to any considerable distance by the pressure of the metallic plate; which pressure, being greatest at the circumference and diminishing toward the centre, tends constantly to approximate the hernial parietes, and afford them rest and mechanical support. It is therefore obvious that nothing is suffered to intervene between the lips of the opening, as is the case when the intestine protrudes, or a convex pad is applied, but a fair opportunity is presented for the fibres to recover their tone, or to heal, when any laceration has been produced by violence done to the parts. It is a law of the animal economy, particularly noticed by Dorsey, that all hollow parts of the body have a tendency to adapt themselves to their contents.

"For the cure of Hernia then, it is only necessary to remove every obstacle which counteracts this tendency. This indication is certainly very far from being answered by the convex pad, and we think it can only be fulfilled by one which shall reduce the bowel without dilating the ring; with this view, we have applied the concave pad, which has more than answered our expectations, in preventing a descent of the gut, and in restoring the fibres, which it undoubtedly greatly facilitates by its constant and uniform pressure. But without investigating the *modus operandi*, it is sufficient for the patient, and for all practical purposes, for the physician to know, that with this instrument Hernia may always be secured. If applied in cases of umbilical or congenital Hernia in children, it will, in every instance, remove the necessity of an operation. In cases of congenital Hernia, it should be applied before adhesion takes place, but not until the testicle has made its descent. If this particular period should be more carefully observed by surgeons, and the application of the Truss, (instead of being abandoned to mechanics) receive a greater share of their attention, they might be instrumental in obviating much of the distress which has been entailed upon the world."

The distinctive merits of this Truss Dr. Hull sums up under the following heads:—

"*Firstly.*—The concave internal surface of the rupture pad, from its pressure being greatest at the circumference, tends constantly to approximate the hernial parietes, affording them rest and mechanical support.

"*Secondly.*—The combined hinge and pivot mode of connexion between the *spring* and *pad*, by means of a tenon and mortice so constructed as to preserve a double hinge and limited joint, acting in every direction, there-

by securing the uniform pressure of the spring on the pad, and sustaining the same nice coaptation of the pad and rupture opening, as well under the varied ordinary desultory muscular actions, as when the body is in a recumbent posture.

"*Thirdly.*—The graduating power and fixture of the pad to the spring, rendering, as will be readily perceived, the position of the pad perfectly controllable, even to nameless minuteness. Also resulting from this mechanism, is the advantage of accommodating a large truss to a small person; hence the *facility of supplying, without disappointment, persons at a great distance.*

"*Fourthly.*—The Double Inguinal Truss; being simply the addition of another pad, attached to a short elastic metallic plate; this plate with its pad move on the main spring by the same power of adjustment and fixture as the first pad, the pressure of the pads being graduated at pleasure by an intervening cork wedge."

The following interesting fact illustrative of the success of the truss is recorded by Dr. Hull:—

"It is a fact well known to the profession in the county of Oneida, and has been a subject of congratulation in their Medical Society, where the Truss was invented and first brought into use, that from the year 1800 to 1819, from three to five persons were annually the subjects of operations from strangulated Hernia: and that from the year 1819 to 1822, not a single case had occurred within the knowledge of any individual member of the society. This surprising alteration was attributed, solely, to the general use of the instrument now under consideration."

Explanation of the plate:—

"H—represents the umbilical truss;

"A—the situation of the rupture pad in umbilical Hernia, resting with its centre directly over the rupture opening. The spring of the pad passes close to the side, as represented by the plate.

"D—represents the situation of the back pad upon the centre of the spine in corpulent persons, but a little beyond on spare or emaciated.*

"I—is a representation of the Double Truss, when upon the body the principal part of the pressure is made upon the end pad, C; that should therefore be applied to the worst rupture. The degree of pressure upon the second pad, B, is regulated by a cork wedge, which is made to slide between the main spring, and small spring, to which the second pad is attached. The application of this Truss is represented by the letters K B C. The back pad resting upon the sacrum, as shown by the letter E. The rupture pads should apply immediately over the rupture opening, the lower edge just touching the edge of the pubis. The spring should pass in a horizontal line, and be neither so large as to be inconvenient, or so small as

* Except in cases where the greatest pressure is required, the counter pad should be made to rest on the muscular cushion on each side of the spine.

to press upon any part of the body. The force of the spring should be sufficient to keep the gut always reduced. The greater pressure the patient can bear, the more perfect is his security, and the greater the prospect of radical cure.

"G—represents the single Ing. Truss; it differs in no respect from the double, without the addition of the second pad. If the rupture be in the right groin, this Truss comes on from the left side, as represented by K. And the same Truss reversed for a rupture in the left groin.

"Fig. F—represents the instrument as applied in femoral Hernia. The curve in the spring at F, is for the purpose of dropping the rupture pad lower in the groin, while the back pad retains the position E. In these cases it will be generally found necessary to turn up a little the upper and lower edge of the pad to prevent its chafing the integuments of the abdomen and thigh.

"If proper attention is paid, it will be difficult to mistake the application of this instrument. The one first applied may not be the best adapted, but the opportunity afforded of trying the several degrees of pressure will at least secure the rupture, if it does not go to the extent of cure."

NOTICES.

UNIVERSITY OF THE STATE OF NEW-YORK.

College of Physicians and Surgeons of New-York. New-York, September 15, 1825.—The Trustees of the College of Physicians and Surgeons of New-York announce to the public that the usual Courses of Lectures will be delivered this Winter in the College in Barclay-street. The Introductory Lectures will commence on the first Monday in November next. The charge for a full Course of Lectures is $100. The matriculation ticket, to be paid for every year during the Student's attendance, is $5.

In conformity with the laws of the State, and the ordinances of the Regents of the University, it will be expected of every Candidate for the Doctorate, that he shall have arrived at the age of twenty-one years—that he shall have studied medicine for three years with some regular practitioner—and that he shall have attended two full courses of lectures in some respectable medical school. The Trustees will feel it to be their duty to exact in every instance, the most rigid compliance with these positive enactments of the Legislature and the Regents.

Appointed as the immediate guardians of this Institution, the Trustees assure the public that no exertions shall be wanting on their part, to place it, in point of advantages, on a perfect equality with the most favoured medical schools in our country.

The Trustees take occasion also to state, that during the present year, they have laid before the Regents such representations concerning the fi-

nancial and other concerns of the College, as they trust will induce that body to adopt efficient measures for relieving the Institution from those embarrassments which have hitherto impeded its progress. The decision of the Regents will be made next Winter, during the session of the Legislature. The following is the Course of Lectures:

Dr. Hosack, on the Theory and Practice of Physic and Clinical Medicine. Dr. Macneven, on Chemistry. Dr. Mitchill, on Botany and Materia Medica. Dr. Post, on Anatomy. Dr. Mott, on Surgery. Dr. Francis, on Obstetrics.

It may be proper to observe that the above is issued by the only legitimate authority of the College, which forbears at present to enter into any public explanation respecting the character of a certain publication which has recently appeared under the signatures of the Professsors.

By order of the Board of Trustees,

JOHN D. JAQUES, M. D. President pro temp.
WM. HAMERSLEY, M. D. Register pro temp.

UNIVERSITY OF THE STATE OF NEW-YORK.

College of Physicians and Surgeons of the Western District at Fairfield, Herkimer County.—The lectures at this Institution will commence on the first Tuesday in October next, and continue during the space of sixteen weeks.

Joseph White, M. D. on Surgery. Westel Willoughby, on Obstetrics. James Hadley, M. D. on Chemistry and Materia Medica. James Mc Naughton, M. D. on anatomy and Physiology. T. Romeyn Beck, M. D. on the practice of Physic and Medical Jurisprudence.

Fee for the whole course of lectures $54. Board may be had from $1,25 to 1,75 per week. By order

JAMES HADLEY, M. D. Register.

Institution for Medical Examinations and Lectures.—The course of medical examinations on the lectures delivered in the college, will commence on the first Monday in November, at the opening of the College of Physicians and Surgeons in this city. The plan which is now proposed to the students of medicine, has been matured for several years, and experience has proved the great advantage of regular and minute examinations on the various subjects taught in the college; these examinations are rendered more interesting and instructive by illustrations afforded by a numerous collection of preparations, specimens, and apparatus, &c. To promote still farther the objects proposed, two gentlemen have been associated to conduct two of the departments, through whose means additional facilities will be afforded, and important additions made to the materials for illustrating their different branches.

The subjects will be taken up in the following order, at 7 o'clock P. M.

Monday, *Therapeutics and Materia Medica*,	Dr. J. S. Rogers.
Tuesday, *Anatomy*,	— Pendleton,
Wednesday, *Surgery*,	— F. G. King.
Thursday, *Chemistry*,	— J. S. Rogers.
Friday, *Obstetrics*,	— Pendleton.
Saturday, *Theory and Practice of Medicine*,	— Hoffman.

Lectures on Anatomy.—Dr. J. Kearney Rodgers will deliver a course of lectures on anatomy during the ensuing winter. The course will commence early in November, and continue for sixteen weeks. As the end of this branch of medical education is its application to practice, it will be the constant endeavour of Dr. Rodgers to bear in mind its connexion with medicine, obstetrics, and surgery. The lectures will be delivered five times a week from 11 to 12 A. M. Fee for the course, 10 dollars.

Lectures on Diseases of the Eye.—Dr. Delafield will commence his course of lectures on diseases of the eye during the first week in November next. A lecture will be given every Wednesday and Saturday at 4 o'clock P. M., at the New-York Eye Infirmary.—Fee for the course, 10 dollars.

State Medical License.—Candidates wishing to obtain licenses to practise Medicine and Surgery, are informed, that the Censors of the State Medical Society for the Southern District will hold their examinations in the city of New-York. They are requested to apply to either of the censors.

FELIX PASCALIS, M. D.
CHARLES DRAKE, M. D. } Censors.
JOHN B. BECK, M. D.

TO READERS AND CORRESPONDENTS.

The press of matter in the present number, which it will be perceived is considerably increased in size, has been so great as necessarily to exclude several articles on hand. They shall appear in our next.

For the paper of Dr. Kirckhoff, we are indebted to the politeness of Dr. Jeremiah Van Rensselaer of this city, to whom it was communicated by the learned author.

Erratum.

Page 415, line sixth from botton, for *unsuccessful* read *successful*.

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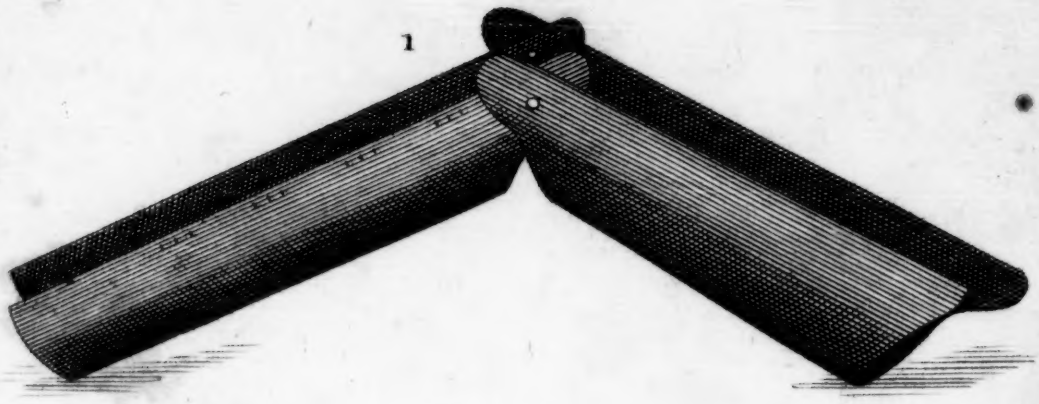

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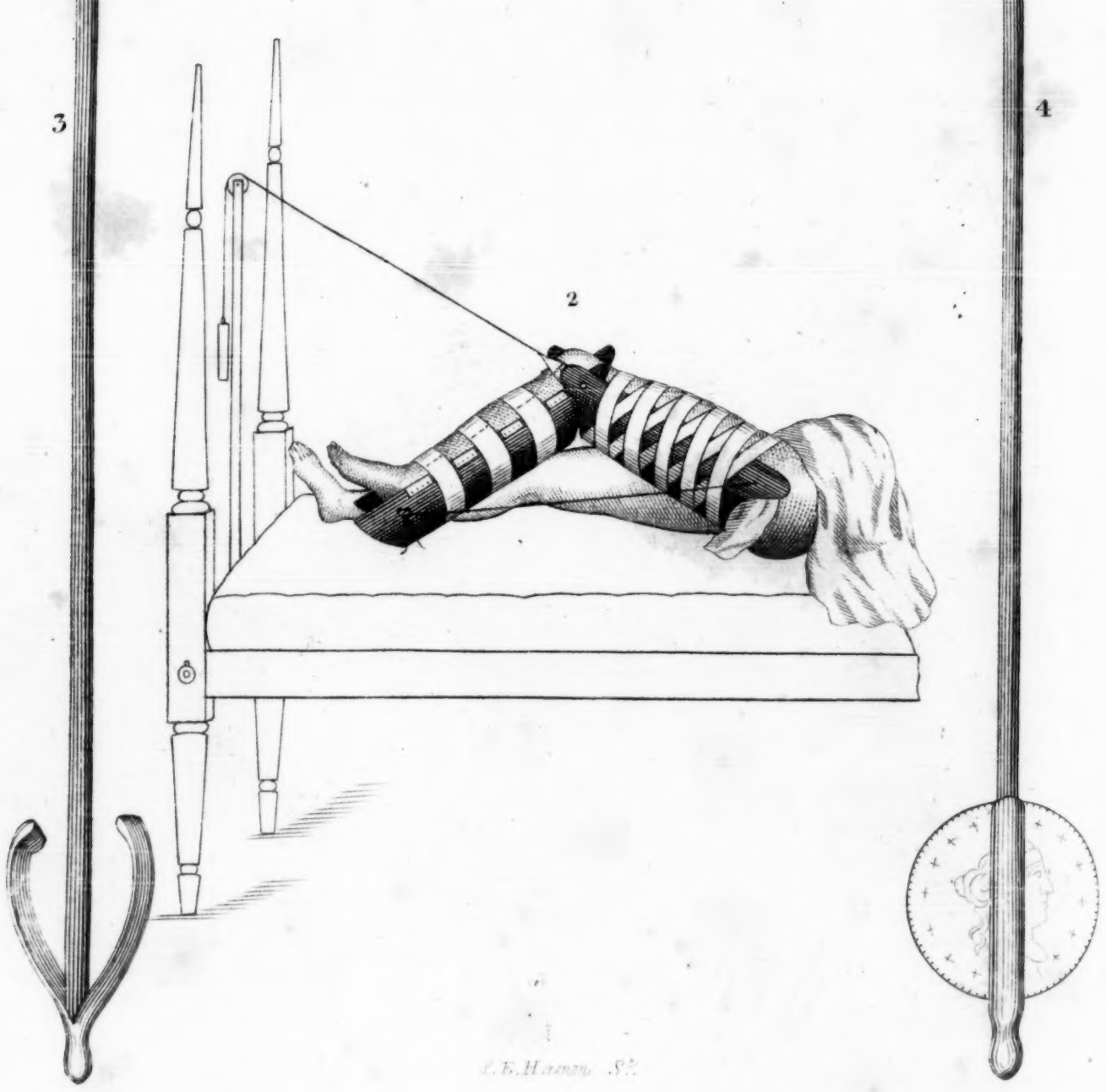

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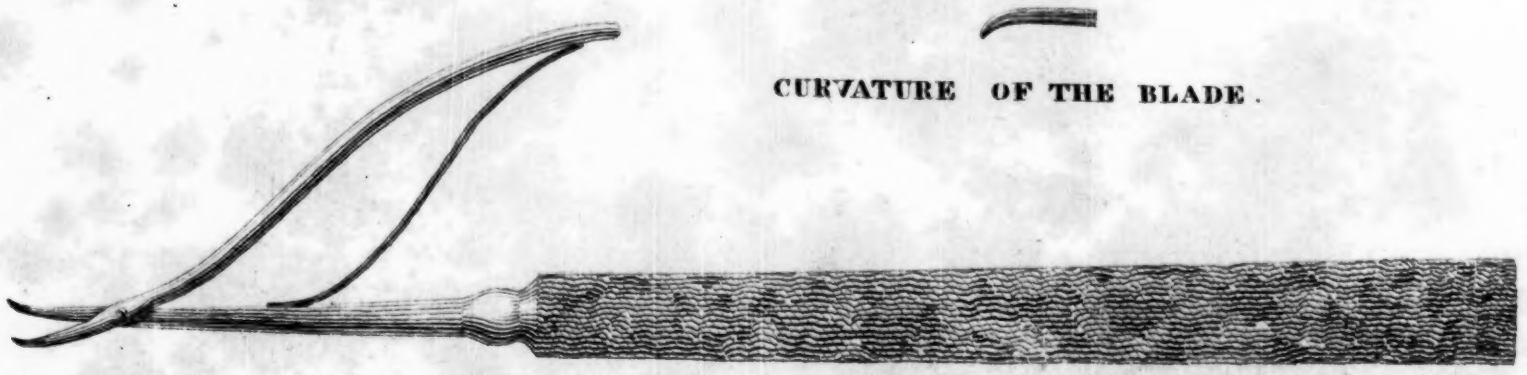

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